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Skeptical Inquirer September/October 2012 | Vol. 36, No. 5

SPECIAL ISSUE

Art and Skepticism

28
Art and Skepticism Introduction
BENJAMIN RADFORD

30
Nighthawks State of Mind
JEREMIAH MOSS

32
Science and Art: Complementary Disciplines
JOE NICKELL

34
Skepticism in the Video Box
CHRISTIAN WALTERS

37
Confirmation Bias and Art
SAMUEL MCNERNEY

40
A Warm Twist on a 'Cold Reading'
A Conversation with Damon Martin
MATTHEW A. KACAR JR.

42
Art, Mysteries, and Context
BENJAMIN RADFORD

44
XKCD: A Perfect Marriage of Snark and Skepticism

46
Surly-Ramic's Amy Davis Roth

48
Skeptic Trumps: A Satirical Skeptic Card Game
TIM FARLEY

50
In the Key of Type
A Conversation with Marian Call
KYLIE STURGESS

52
Skewed Skepticism: Bizarro Piraro
A Conversation with Dan Piraro
BENJAMIN RADFORD

BOOK REVIEWS

Are Conservatives and Liberals Different People?
RONALD A. LINDSAY.....54
The Republican Brain: The Science of Why They Deny Science—and Reality
by Chris Mooney

COLUMNS

FROM THE GUEST EDITOR
Art and Skepticism 4

NEWS AND COMMENT
CSI's Balles Prize Goes to Richard Wiseman for *Paranormality*/Sixth World Skeptics Congress–Berlin 2012/Dear Dr. Phil/Victims in Psychic-Inspired Hoax Sue Police, Media/NRC Booklet Answers Common Questions about Climate Change/Americans' Anti-Evolution Beliefs Steady for Past Thirty Years/Psychic Medium Convicted of Sexual Exploitation 5

INVESTIGATIVE FILES
The 'Murder' of Vincent van Gogh
JOE NICKELL.....14

THINKING ABOUT SCIENCE
What's So Bad about Ad Hoc Hypotheses?
MASSIMO PIGLIUCCI 18

NOTES ON A STRANGE WORLD
Alien Mug Shots: The Ten Best (or Worst) Photos of Aliens
MASSIMO POLIDORO.....19

PSYCHIC VIBRATIONS
'Top Ten' UFO Case: Yukon, Canada, 1996–Busted!
ROBERT SHEAFFER 22

SCIENCE WATCH
Saving Us from Sweets: This Is Science and Government on Sugar
KENNETH W. KRAUSE.....24

SKEPTICAL INQUIREE
Tracking the Chupachameleon: Chupacabra Iconography
BENJAMIN RADFORD.....26

NEW AND NOTABLE 55

LETTERS TO THE EDITOR.....60

THE LAST LAUGH.....66

The Puzzle of the Implausible
RONALD L. NUMBERS.....57
Power and Illusion: Religion and Human Need
by David W. Wilbur

Enumerating the Problems with Young-Earth Creationism
PETER LAMAL.....58
The Three Failures of Creationism: Logic, Rhetoric, and Science.
by Walter M. Fitch

Art and Skepticism

"The end of art is to figure the hidden meaning of things and not their appearance; for in this profound truth lies their true reality, which does not appear in their external outlines."

—Aristotle

Welcome to our Art and Skepticism issue. We previously devoted a special issue of the SKEPTICAL INQUIRER to "Science and Art," which proved quite popular. So we decided to return to the theme but narrow the focus a bit. While the intersection between art and skepticism may not be apparent at first glance, they share many qualities. They both involve analysis, creativity, exploration, and inquisitiveness. Both are vehicles for finding out about our world—both inner and outer.

We have assembled a spectacular lineup of materials and contributors representing a variety of approaches to science, skepticism, and art. Christian Walters surveys skepticism in online videos, from comedy shorts to Richard Wiseman's mind-bending experiments that educate as they entertain.

We also have interesting historical mysteries, including Joe Nickell's in-depth analysis of the curious circumstances surrounding the death of Vincent van Gogh, Jeremiah Moss's search for the real-life inspiration for Edward Hopper's famous *Nighthawks* painting, and Massimo Polidoro's clever look at the top ten alien mug shots. Drawing from my own research I examine chupacabra iconography—how depictions of a world-famous monster (and solved mystery) evolved over time.

Skeptical artists? We've got plenty, including profiles of musicians Damon Martin and Marian Call, artists Dan "Bizarro" Piraro and Crispian "Skeptic Trumps" Jago, and the online comic *xkcd* (which has appeared on our "Last Laugh" page). And then—for something completely different—artist Amy Davis Roth shares her creative skeptical ceramics.

On a more philosophical note, Samuel McNerney takes a skeptical look at confirmation bias in art (why do we like what we like?); Joe Nickell examines the ways in which science and art are complementary disciplines, and finally I examine what art can tell us about the importance of context in solving mysteries.

And, of course, we also have our usual stable of fine columnists, reviewers, and contributors. We hope you enjoy this special issue; please let us know what you think.

—Benjamin Radford
Deputy Editor, the SKEPTICAL INQUIRER

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Inquiries from the media and the public about the work of the Committee should be made to Barry Karr, Executive Director, CSI, P.O. Box 703, Amherst, NY 14226-0703. Tel.: 716-636-1425. Fax: 716-636-1733. Email: bkarr@centerforinquiry.net.

Manuscripts, letters, books for review, and editorial inquiries should be sent to Kendrick Frazier, Editor, SKEPTICAL INQUIRER, 944 Deer Drive NE, Albuquerque, NM 87122. Fax: 505-828-2080. EMAIL: kendrickfrazier@comcast.net. Before submitting any manuscript, please consult our updated and expanded Guide for Authors for styles, reference requirements, and submittal requirements. It is on our website in two formats at www.csicop.org/publications/guide.

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"... promotes scientific inquiry, critical investigation, and the use of reason in examining controversial and extraordinary claims."

CSI's Balles Prize Goes to Richard Wiseman for *Paranormality*

BARRY KARR

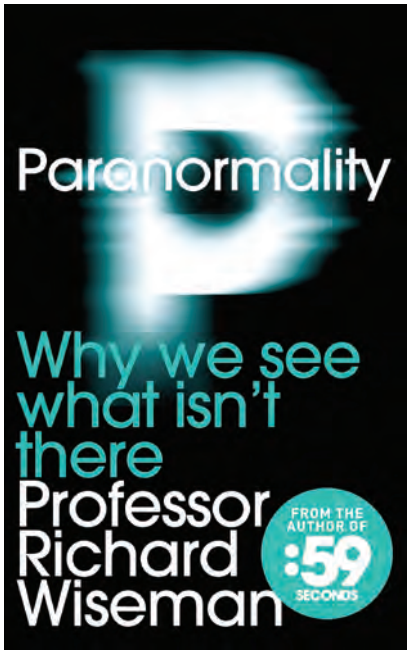
The Committee for Skeptical Inquiry (CSI) will award its 2011 Robert P. Balles Annual Prize in Critical Thinking to psychologist Richard Wiseman for his book *Paranormality: Why We See What Isn't There.*

Wiseman holds Britain's only Chair in the Public Understanding of Psychology, at the University of Hertfordshire (UK). He has written several best-selling books, including *The Luck Factor*, *Quirkology*, *59 Seconds*, and *Paranormality*. More than two million people have taken part in his mass participation experiments, and his YouTube channel has received more than thirty million views. He is one of the most frequently quoted psychologists in the British media and was recently listed as one of the *Independent on Sunday*'s top 100 people who make Britain a better place to live. He is also a Committee for Skeptical Inquiry fellow and a SKEPTICAL INQUIRER consulting editor.

Paranormality is not like a good number of skeptical books looking at paranormal claims. Wiseman is not simply interested in looking at a claim, gathering the evidence, and debunking the claim. He goes a step further. He is interested in showing us how easy it is for us to be deceived and how easily we can be fooled and fool others. He includes do-it-yourself activities that allow you to learn some of the basics and share in the experiences for yourself.

As the book jacket says: "Richard Wiseman is clear about one thing: Paranormal phenomena don't exist. But in the same way space travel yields technology that transforms our everyday lives, so research into telepathy, fortune-telling, and out-of-body experiences produces remarkable insights into our brains, behaviour and beliefs." Exactly.

The Robert P. Balles Annual Prize in Critical Thinking is a $1,500 award given to the author of the published work that best exemplifies healthy skepticism, logical analysis, or empirical science. Each year, the Committee for Skeptical Inquiry, publisher of the SKEPTICAL INQUIRER, selects the paper, article, book, or other publication that has the greatest potential to create positive reader awareness of important scientific issues.



The prize will be presented to Wiseman during CSICon Nashville, October 25–28, 2012.

This prize has been established through the generosity of Robert P. Balles, an associate member of CSI, and the Robert P. Balles Endowed Memorial Fund, a permanent endowment fund for the benefit of CSI. CSI's established criteria for the prize include use of the most parsimonious theory to fit data or to explain apparently preternatural phenomena.

This is the seventh year the Robert P. Balles prize has been presented. Previous winners of this award are:

2010: Steven Novella for his tremendous body of work, including the *Skeptics' Guide to the Universe*, *Science-Based Medicine*, *Neurologica*, SKEPTICAL INQUIRER column "The Science of Medicine," and his tireless travel and lecture schedule on behalf of skepticism

2009: Michael Specter, *New Yorker* staff writer and former foreign correspondent for the *New York Times*, for his book *Denialism: How Irrational Thinking Hinders Scientific Progress, Harms the Planet, and Threatens Our Lives*

2008: Leonard Mlodinow, physicist, author, and professor at Caltech, for his book *The Drunkard's Walk: How Randomness Rules Our Lives*

2007: Natalie Angier, *New York Times* science writer and author of the book *The Canon: A Whirligig Tour of the Beautiful Basics of Science*

2006: Ben Goldacre for his weekly column, "Bad Science," published in the *Guardian* newspaper (U.K.)

2005: Shared by Andrew Skolnick, Ray Hyman, and Joe Nickell for their series of articles in the SKEPTICAL INQUIRER on "Testing 'The Girl with X-Ray Eyes'"

Barry Karr is the executive director of the Committee for Skeptical Inquiry.

Sixth World Skeptics Congress–Berlin 2012

Kylie Sturgess

It's rare for a gift of homeopathy to be welcomed by skeptics, but at the Sixth World Skeptics Congress every presenter was given a sample of *Murus Berlinensis*, a homeopathic remedy made from the remains of the Berlin Wall. While sugar tablets can't be guaranteed to bring harmony and unity in every pill, they certainly brought an ironic smile to the face of James Randi. The conference, held in Berlin from May 18–20, 2012, was a lively mixed gathering of people with a great number of countries represented both on the stage and in the audience.

Despite the long weekend dedicated to the congress ahead, there were a number of well-attended tours on Wednesday and Thursday before the event that allowed attendees to learn more about the history of the underground bunkers and towers around the city. An open-day on Thursday featured magic shows, lectures, and a German session of "Science Slam"—an event similar to the traditional "Café Scientifique" but with a competitive edge.

Eugenie C. Scott started off the main event on Friday with a brisk but disturbing look at creationism outside the United States, involving the intersection between politics and creationism in Italy, Serbia, Brazil, Great Britain, and Russia. Scott's message on how "science is not a democracy" was reiterated by Dittmar Graf of the Institute of Biology and Education at the University of Dortmund, who outlined comparative studies on the acceptance of evolution in Germany and Turkey and the difficulties in achieving such acceptance. Johan Braeckman of Ghent University and the Flemish skeptical organization SKEPP presented on creationism in Belgium and the Netherlands, with an amusing tale about the potentially London-Olympic bound "authentic" Noah's Ark built by Dutch creationist Johan Huibers.

The high level of acceptance of creationism in the Islamic world was the focus of research conducted by McGill's Evolution Education Research Center, presented by Anila Asghar. An extensive study involving more than one hundred Muslim scientists and teachers and five thousand student surveys across Turkey, Lebanon, Egypt, Indonesia, and Pakistan revealed that while the reconciliation of faith and evolution was possible for scientists, exposure to American creationist materials and religious messages produced conflicted responses from students.

Gita Sahgal, director of the Centre for Secular Space, began the sessions on pseudoscience in education. Her lecture unveiled the early history and myths of India and Pakistan and the influence they have had on nationalist movements and education in the nineteenth and twentieth centuries. My presentation followed; inspired by a 2006 Australian paper on autism, dyslexia, and attention-deficit hyperactivity disorder (ADHD), it showed how the "unsinkable rubber ducks" like Dore, the "Mozart effect," Brain Gym, and Facilitated Communication persist even now—despite damning research, court cases, and even company bankruptcy.

Samantha Stein from Camp Quest echoed my overall point on the need for all stakeholders to develop greater responsibility when improving education. Her dynamic presentation on "Engaging Children in Science" critically examined the state of U.K. science education, the need for education reform, and the promotion of science literacy beyond the classroom. Her talk prompted a passionate outburst during the question-and-answer session by audience

Photos by André Sebastiani

The Sixth World Skeptics Congress drew an impressive stable of speakers and attendees.

From left: Kylie Sturgess, Eugenie C. Scott, and Camp Quest's Samantha Stein.

member Simon Singh, who agreed with Stein's observation about the sorry state of science education. Stein is currently writing a book, *Atheists, Tents, and Unicorns: The Story of Camp Quest in the UK*, on her experiences as the founder and director of Camp Quest UK. The day concluded with awards for Simon Singh and Edzard Ernst, Luigi Garlaschelli, and Wim Betz, recognizing their ongoing efforts to promote science and reason worldwide.

For the start of Saturday's proceedings Professor Jürgen Windeler delivered a presentation on evaluating the benefits of conventional and complementary medicine, looking specifically at some misunderstandings of medical evaluation—what is involved in randomization and how simple blinding methods are not always possible. He also presented a case for ignoring the claims of homeopathy rather than giving them any potential therapeutic credibility. The topic of diagnostic and therapeutic interventions was expanded upon by Gerd Antes of the University Medical Center in Freiburg, who interrogated the systematic research into the deficiencies of the research and publication process and how this contributes to what would be otherwise avoidable diseases and deaths: "Don't fight belief; fight the justification of belief through the abuse of science and knowledge."

Harriet "Skep-Doc" Hall, MD, a popular science writer for a number of skeptical publications including *Skeptic* and SKEPTICAL INQUIRER, discussed the bogus and bizarre treatments that are touted as so-called complementary/alternative medicine (or "SCAM"). She presented on the issues that arise from meta-analyses and systematic reviews of pseudoscience in medicine (drawing on a paper by Ioannidis). Hall is the creator of the "tooth fairy science" analogy for the seductive appeal of such claims, and she introduced us to the German translation: *Zahnfeewissenschaft*! This was her first overseas presentation at a skeptical convention, and considering the extremely positive response to her work from the audience, it should certainly not be her last.

The sessions on alternative medicine concluded with an in-depth and entertaining look at acupuncture by Benedikt Matenaer, who has a background in anesthesiology and palliative care. He critically analyzed the economic influences acupuncture has had on the German health system and the reasons that public health insurances and public health systems should be held accountable for promoting acupuncture (particularly why practitioners are acquiring a "pseudo-education" to "put needles anywhere"). The assumptions made by acupuncturist "professionals" are "stupid" and "disgusting lies"—and he proposed a hilarious quiz on chi for the next time skeptics encounter their claims. One canny audience member inquired about potential cheaper health insurance policies due to hypothetical companies not endorsing pseudoscientific practices.

The end-of-day sessions on "Psychology and Pseudoscience," chaired by James Alcock, brought us the very first public demonstration of Ray Hyman's PowerPoint skills for a lecture on the history of testing psychic claims, and he included some impressively deft rope tricks. Although Chris French's original presentation was beset by technical difficulties, his new lecture certainly captured the audience's attention with a tale of scientists attempting to replicate Daryl Bem's precognition studies and the frustrating and sometimes bemusing lengths that must be taken to be published in peer-reviewed journals. Polish skeptic Tomasz Witkowski's talk on pseudoscience in psychology investigated not only how dodgy claims in the field are detrimental for science in general but also how they mislead those who hope to find help with health issues such as brain damage and cancer.

On Sunday, skepticism entered the political sphere when Chris Mooney discussed his recent investigations into cognitive differences between liberals and conservatives—which may help or hinder the development of a civil society—as discussed in his new book, *The Republican Brain.* Simon Perry's talk on the advent and application of fill-in-

Photos by André Sebastiani

Simon Singh

Massimo Polidoro

complaint-form website Fishbarrel (adapted by a handful of countries to help target pseudoscientific products online) was well received by the mostly German audience; this may also be due to another innovative example of using similar methods of social media manipulation by Germany's *Piratenpartei* (Pirate Party), which has influenced local political change. The last session featured a standing-room-only Houdini Séance with Ray Hyman, James Randi, and Massimo Polidoro delving into some of the lesser-known stories of the great magician. We were then treated to a lengthy question-and-answer session, ranging from the history of the Million Dollar Challenge (lauded by African skeptic Leo Igwe as invaluable to activist efforts worldwide) to the danger of lie detectors to budget spending on paranormal claims worldwide.

The event concluded with the Committee for Skeptical Inquiry, the European Council of Skeptical Organisations (ECSO), and the *Gesellschaft zur wissenschaftlichen Untersuchung von Parawissen schaften* (GWUP) releasing a resolution calling for high standards of scientific practice in scientific institutions and in science education—to focus on challenging pseudoscience when it is being established within academic and instructional institutions, particularly when funded by tax-payers. (See box for text.) Considering the scope of the topics and presentations at the congress, a call for international action was a fine way to finish a dynamic and stimulating weekend of skepticism.

The next World Skeptics Congress will be held in Sweden in 2013.

Kylie Sturgess is the host of *Token Skeptic*, a podcast that garners around 15,000 listeners per month (and growing) and is syndicated to radio stations in the United States. She regularly writes for numerous publications worldwide and authors CSI's "Curiouser and Curiouser" online column. An award-winning philosophy and special needs teacher, Kylie is a member of the James Randi Educational Foundation Education Advisory Panel.

Resolution

Scientific Standards in Academia and Education

On the occasion of the Sixth World Skeptics Congress in Berlin, the Committee for Skeptical Inquiry (CSI), the European Council of Skeptical Organizations (ECSO), and the German skeptical organization Gesellschaft zur wissenschaftlichen Untersuchung von Parawissenschaften *(GWUP) adopted the following resolution calling for high standards of scientific practice in scientific institutions and in science education.*

Scientists and skeptics from around the world are deeply concerned with the growing tolerance, acceptance, and even promotion of pseudoscientific and occult ideas and practices within scientific, academic, and educational institutions. Students worldwide are in danger of being instructed in the unsubstantiated claims of ideologues and purveyors of pseudoscience, rather than learning to base conclusions on dependable, scientific knowledge. Scientists and academics may be reluctant or afraid to speak up, even when scientific principles and criteria are blatantly violated, fearful of antagonizing colleagues or those on whom their own careers may depend.

At the occasion of the Sixth World Skeptics Congress in Berlin, CSI, ECSO, and GWUP call for high standards of scientific practice in scientific institutions and in science education. They call on scientists and academics worldwide to raise their voices when pseudoscience is being established within academic and instructional institutions. When such institutions are publicly funded, it is additionally of crucial importance that taxes not be used to promote pseudoscience or ideologies.

Specifically, we call on all those responsible to:

- Ensure that universities, medical institutions, and colleges teach dependable, scientific knowledge and resist the temptation to let unproven claims enter professional education; such institutions are obliged to assist students to clearly distinguish between science-based and unscientific methodologies within the context of science and evidence-based medicine; and
- Ensure that scientific standards of evidence-based medicine are applied without compromise, resisting attempts to grant exemptions for ideological or commercial reasons to some forms of therapy that potentially risk patient welfare; and
- Ensure that schools base the science curriculum on accepted science, rejecting attempts to influence the curriculum on ideological, political, or religious grounds, such as has occurred with the teaching of evolution and climate change.

We also call upon our sister skeptical organizations from around the world in the spirit of consumer protection to commit themselves to ensuring good science within academia and schools, in addition to continuing their efforts to promote science and critical thinking to the public.

Dear Dr. Phil

Dear Dr. Phil,

Your May 25, 2012, show about psychics, "Inside the Other Side" (http://www.drphil.com/shows/show/1853), did not demonstrate the "healthy degree of skepticism" you claimed in the show's opening. As a person who has taken many critical thinking courses—such as research—as part of his PhD, you would, I assume, understand how to draw logical conclusions based on available scientific evidence. Here are a few examples of why the show lacked a healthy degree of skepticism along with some explanations for why the guests *appeared* to be psychic.

When "color" psychic Dougall Fraser told you he saw purple in your aura, therefore you're a leader and like to be in control, I don't think that was a particularly risky prediction for someone who hosts a major television show. With a healthy degree of skepticism, you could have pointed this out—but I suspect your producers and sponsors preferred that you didn't.

Your poll at the beginning of the show indicated that 78 percent of the audience believed in psychic ability. Do you suppose this could account for why so many audience members assessed the psychics as accurate?

If you have a healthy degree of skepticism, why were there more than four guests who were allegedly psychic and only one person who was a skeptic? Also, why was the skeptic not on stage with the psychics?

That lone skeptic, as you know, was James Underdown, who pretended to be a psychic and convinced the subjects that he had supernatural abilities—so much so that he even brought three of them to tears. Because Underdown had never given a reading before, it made perfect sense when psychic Rebecca Rosen was labeled as more accurate than him (after giving the same subjects a reading). But your implication was that Underdown wasn't very convincing while the psychics were. This is extremely unfair—especially considering that Rebecca claimed to have given thousands of readings. Had you not had her provide a reading to those same subjects, Underdown would have clearly convinced most that he had psychic ability. This was the most important thing that happened in the show, and you discredited Underdown's convincing performance. He was actually magnificent, but you wouldn't acknowledge it.

If you have a healthy degree of skepticism, why were there more than four guests who were allegedly psychic and only one person who was a skeptic?

The seemingly amazing hit from Rebecca Rosen regarding her vision of a hummingbird (and then discovering the subject had a hummingbird tattoo) illustrates why testing needs to be conducted under controlled, scientific conditions. As a skilled researcher with a PhD, why didn't you suggest tighter controls using impartial assistance (researchers not affiliated with your show) to monitor Rebecca's reading and make certain the two had never come in contact with each other? Or, perhaps you could have allowed the impartial researchers to select your subjects (and perhaps not from your audience). This would have made the apparent hit more believable. Should you ever do another show on the subject—with Rebecca as a guest once again—I'd be happy to supply the subjects and see if she is as apparently accurate with her readings as before.

As for one of your guests trying to validate remote viewing because of the U.S. government's research into the subject, I want you to know that the government eventually abandoned remote viewing research because it didn't work.

With this kind of unskeptical stance from the host, is it any wonder that 84 percent of your audience claimed belief in psychic ability by the show's end?

You do some really good shows—and for the right reasons—but I get the feeling you did this one primarily for ratings. If you do another show on the subject, I hope it's with a balanced panel of guests. Since you seem so convinced of the validity of the psychics' readings, would you suggest people with relationship problems seek psychics rather than mental health professionals? If this is the case, consider doing the rest of your relationship shows with psychics—you'll get the ratings and the sponsors will love it. Just curious—did your audience members fill out a card before the show began commenting on concerns and issues in their lives?

All my best,

Dr. Bryan
(a person with a genuinely healthy degree of skepticism)

(See also "Dr. Phil Gives Psychics a Pass," Kendrick Frazier, "From the Editor," SI, July/August 2012.)

Bryan Farha is professor of behavioral studies in education at Oklahoma City University. He is a CSI consultant and editor of *Paranormal Claims: A Critical Analysis*. His email address is bfarha@okcu.edu.

"It is error only, and not truth, that shrinks from inquiry."
– Thomas Paine

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Victims in Psychic-Inspired Hoax Sue Police, Media

BENJAMIN RADFORD

A Texas couple that owns a ranch that was searched by police following false information about a mass grave provided by a psychic is suing the police and several major news organizations for defamation.

Though the incident became a national embarrassment, the police refused to apologize, saying that procedures were followed and that the severity of the claims warranted an investigation.

The case began June 6, 2011, when a psychic called police describing a horrific scene of mass murder: dozens of dismembered bodies near a ranch house about an hour outside of Houston, Texas. There were rotting limbs and headless corpses; chillingly, many were children. Deputies from the Liberty County Sheriff's office went to investigate but didn't see anything amiss. After a second call the following day, dozens of officials from the Texas Department of Public Safety, the FBI, and the Texas Rangers were on the scene—not to mention cadaver dogs, news helicopters, and gawkers. It all turned out to be a false alarm.

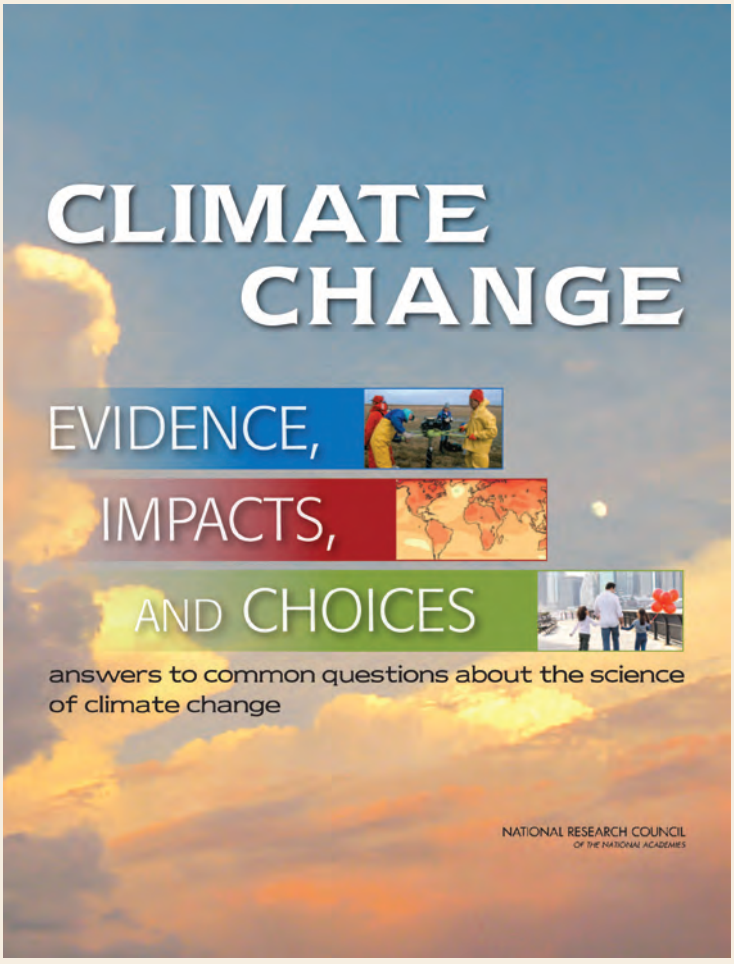
Though the incident became a national embarrassment, the police refused to apologize, saying that procedures were followed and that the severity of the claims warranted an investigation. Whether a tip comes from an ordinary citizen, an anonymous informant, or a self-proclaimed psychic, information about mass murders cannot be ignored.

NRC Booklet Answers Common Questions about Climate Change

The National Academy of Sciences/National Research Council on July 3 issued a glossy, well-illustrated, forty-page booklet for the general public about climate change. It is based on a number of recent NRC reports prepared at the request of Congress that examined and presented the peer-reviewed scientific evidence about climate change.

The booklet, *Climate Change: Evidence, Impacts, and Choices*, has easy-to-understand sections on the three aspects in the subtitle. Perhaps the most valuable section is the first, "Evidence for Human-Caused Climate Change." It gives short, clear discussions about questions still raised in public forums: How do we know that the Earth has warmed? How do we know that greenhouse gases lead to warming? How do we know that humans are causing greenhouse gases to increase? How much are human activities heating Earth? How do we know the current warming trend isn't caused by the sun or by other natural processes?

The booklet and its accompanying twenty-four-minute video are available online from the National Academy of Sciences at http://americasclimatechoices.org.



Now the couple that owns the ranch is suing. According to a story in *The Dayton News,* "Joe Bankson and Gena Charlton, through their attorney, Andrew B. Sommerman, filed a lawsuit on June 5, 2012, in the 193rd Judicial District in Dallas claiming that the sheriff's office and the media groups acted in reckless disregard and caused damage to the couple's reputation and good name. Bankson and Charlton . . . are now unable to return to their rented home in Hardin because 'everyone looks at them askance because of the accusations made against them.'"

Bankson and Charlton accuse the *New York Times*, CNN, Thompson Reuters, ABC News, and other news media of publishing false statements claiming that bodies had been found on their property.

This was only one of many false psychic tips given to police. In March 2004, a Florida psychic contacted the Transportation Safety Administration to inform them that a bomb was aboard an American Airlines flight headed for Dallas, Texas. Nothing was found, but the delay caused by the psychic's tip forced cancellation of the flight, and over one hundred passengers were placed on later flights, most delayed until the following day. Whether Bankson and Charlton will win their defamation lawsuit remains to be seen, though if they do it may make police more cautious about following up on psychic information.

Benjamin Radford is the deputy editor of the Skeptical Inquirer.

Americans' Anti-Evolution Beliefs Steady for Past Thirty Years

Kendrick Frazier

The 2012 version of the Gallup Poll's biennial survey about U.S. beliefs on evolution vs. creationism presents few surprises—in fact it demonstrates a thirty-year picture of virtually stable belief. In this year's poll (issued June 1) 46 percent of Americans believe in the creationist view that God created humans in their present form. This is essentially unchanged from thirty years ago, when Gallup first posed the question. About a third of Americans believe that humans evolved, but with God's guidance. Fifteen percent say humans evolved but that God had no part in the process. The virtually flat trend of data since 1982 is shown at right.

As Gallup's Frank Newport says, "All in all, there is no evidence in this trend of a substantial movement toward a secular viewpoint on human origins."

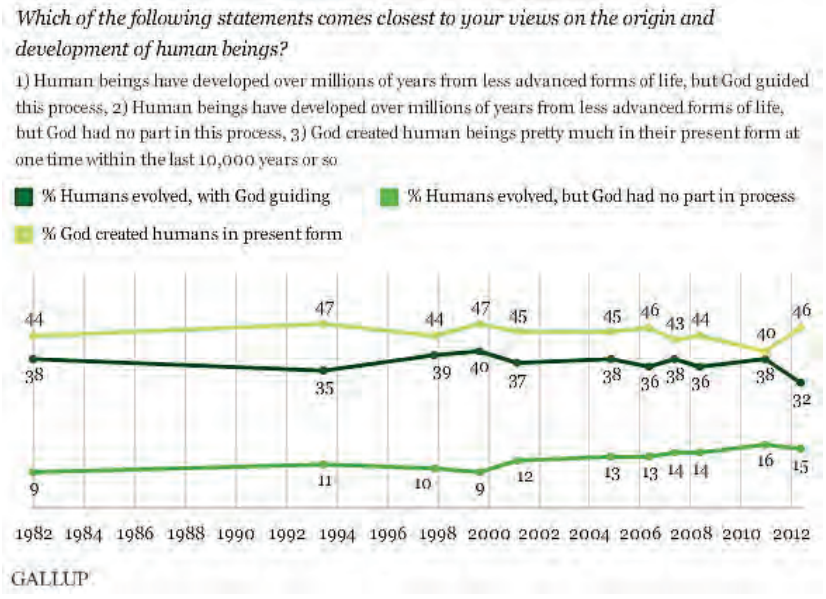
The poll also shows, again no surprise, that Republicans tend to believe that God created humans in their present form in higher numbers (58 percent) than do Independents (39 percent) or Democrats (41 percent).

If there was any comfort at all for educated, science-minded observers it is that Americans with a postgraduate education are most likely to say humans evolved in their present form without divine guidance (42 percent, compared with 35 percent for those with only a college degree and 25 percent for those with a high school degree or less).

Newport acknowledges that Americans' views are out of step with the scientific evidence: "It would be hard to dispute that most scientists who study humans agree that the species evolved over millions of years, and that relatively few scientists believe that humans began in their current form only 10,000 years ago without the benefit of evolution. Thus, almost half of Americans today hold a belief, at least as measured by this question wording, that is at odds with the preponderance of the scientific literature."

Still, all three questions ask about something that is essentially a scientific concept (evolution) in terms of God and religion. It would be nice if a future poll would add a question framed in purely scientific terms without explicit reference to God or religious belief. Mentioning God and religion obviously reinforces the idea that the issue should be interpreted only in terms of one's religious beliefs.

Kendrick Frazier is the editor of the Skeptical Inquirer.


Which of the following statements comes closest to your views on the origin and development of human beings?
1) Human beings have developed over millions of years from less advanced forms of life, but God guided this process, 2) Human beings have developed over millions of years from less advanced forms of life, but God had no part in this process, 3) God created human beings pretty much in their present form at one time within the last 10,000 years or so
% Humans evolved, with God guiding
% Humans evolved, but God had no part in process
% God created humans in present form
44 47 44 47 45 45 46 43 44 40 46
38 35 39 40 37 38 36 38 36 38 32
9 11 10 9 12 13 13 14 14 16 15
1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
GALLUP

Psychic Medium Convicted of Sexual Exploitation

Benjamin Radford

In June, a psychic went on trial in Britain, accused of tricking two women into stripping and performing sex acts in order to speak to their dead relatives. According to an article in the *Daily Telegraph*,

> A young woman told a jury today how a psychic tricked her into performing "like a porn star" in the hope of getting in touch with her dead grandfather. Medium Karl Lang is accused of persuading the woman, twenty-six, to strip naked during a séance because it increased her powers to contact the spirit world. The other victim, now twenty-seven, said: "The first time I stripped off my clothes he said 'Well done! You've gone up a level in the spiritual world.'. . . He told me the more outrageous I behaved, the higher level I would get."

The second victim claims that Lang convinced her that her dead father was communicating with him, and he encouraged her to undress and masturbate to improve her psychic powers. She said that she felt "brainwashed, manipulated and groomed" by Lang. "He was an abuser taking advantage of the fact that my dad died when I was young and I never had the chance to say goodbye," she said.

The women said that they were introduced to Lang after being impressed with a psychic reading he'd given at a friend's party. On June 22, Lang was convicted of twelve counts of causing women to engage in sexual activity without consent; Judge Patrick Curran of the Newport Crown Court described Lang's activity as "systematic conduct and a breach of trust involving two very vulnerable young women . . . vulnerable in the sense that they were bereaved and sought the defendant's consultation in communicating with those who died, and he took the most gross advantage of the situation."

Trickery and exploitation by alleged psychics is nothing new. Harry Houdini crusaded against fraudulent mediums, his training and experience as a magician allowing him to effectively expose many psychic mediums' fake ghostly phenomena. Mediums were caught using everything from assistants camouflaged in black to hidden wires and strings in order to simulate supernatural events. By the 1920s an entire cottage industry devoted to faking ghostly communication was thriving on both sides of the Atlantic. One big reason for their success: emotionally manipulating grieving people's desire to believe. When a person in authority is claiming to have unproven, special powers that can send messages from the dead to vulnerable and grieving people, it's a recipe for emotional manipulation and exploitation. ■

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Joe Nickell, PhD, is CSI's senior research fellow and author of numerous books, including: *Crime Science: Methods of Forensic Detection*.

The 'Murder' of Vincent van Gogh

Did the great post-impressionist painter Vincent van Gogh (1853–1890) die—not by his own hand, as history has recorded, but instead by a pistol-wielding teenage rowdy, either as a murder or an accident that was covered up? The latter view is advanced in the troubled artist's latest biography, *Van Gogh: The Life*, written by Steven Naifeh and Gregory White Smith (2011). (See "Was Vincent van Gogh Murdered?" 2011.) Naifeh told Morley Safer of CBS's *60 Minutes* that in claiming he had shot himself, Van Gogh "was covering up his own murder" (CBS News 2011).

Questioned Death

As related in various sources—in standard reference works as well as the best-selling fictionalized biography by Irving Stone, *Lust for Life* (1934), and the movie of the same title starring Kirk Douglas (1956)—van Gogh's death resulted from a self-inflicted gunshot wound. He had gone into the fields to paint but instead, despairing of life, shot himself just below the ribs with a revolver.

Surviving, he struggled over a mile back to his room in Auvers sur Oise (a French town northeast of Paris). There he told friends, his brother Theo, doctors, and police that he was responsible: "Do not accuse anyone. It is I who wanted to kill myself." He lingered for some thirty hours before dying in Theo's arms (Naifeh and Smith 2011, 850–869).

Naifeh and Smith (2011, 856) present a far different scenario based on a rumor that surfaced in the 1930s, alleging that some "young boys" had accidentally shot the painter. The authors attempt to link that late rumor with the even later statement made by an eighty-two-year-old man shortly after the release of the movie *Lust for Life* in 1956. Only sixteen at the time of van Gogh's death, René Secrétan told how he and his friends had enjoyed playing pranks on the eccentric painter. The authors suggest that somehow this behavior led to the artist's shooting. Although René's older brother was a friend of van Gogh, Naifeh and Smith include him in their scenario also. René claimed that van Gogh had stolen the fatal gun from his rucksack—or rather, must have done so—while René fished because it was later missing (870–876). René in turn claimed to have bought or borrowed the pistol from Gustave Ravoux, keeper of the inn where van Gogh boarded (871).

Alternative Possibility

Although René Secrétan said absolutely nothing about shooting van Gogh, the authors are off and running with their suggestions of manslaughter or worse. They raise a number of questions they believe suggest something—anything—other than suicide (869–85). Here I address each question and provide a more likely answer.

1. According to the innkeeper's daughter, van Gogh had obtained the old revolver (which sometimes malfunctioned) from her father directly "in order to scare away crows." Naifeh and Smith suggest that the innkeeper devised this "cover story" so as "to conceal his own culpability." They call it "a patent falsehood, since Vincent had no fear of birds and thought of crows in particular as good omens" (879). Are we really to believe such a story?

What if van Gogh had said it was to scare *up* crows—so he could paint them in flight, just as they are depicted in his famous "last" painting *Wheat Field with Crows*?[1] I believe this new hypothesis is in keeping with van Gogh's desire to paint from life. Everyone agrees the pistol was the innkeeper's, so statements from him, even via his daughter, should be most credible.

2. How can one explain van Gogh's missing belongings—his easel, shoulder bag of brushes and paints, and canvas—unless having shot the painter, René and his brother "apparently had the time and presence of mind to collect the pistol and all of Vincent's belongings before hurrying off into the gathering dusk" (850, 873)?

But why would the Secrétan brothers take van Gogh's possessions as part of "their hasty cover-up of the deed"? Far from helping them conceal their act, removal of the items would instead only suggest involvement by others and—if they were actually seen with such bulky painters' items—would confirm their guilt. Perhaps van Gogh had discarded the items himself (even perhaps in the river) in one of his fits of rage, determined not to need them again. Or perhaps they were abandoned in a secluded place.

3. If van Gogh had been in the distant wheat fields to paint, how did he manage, after shooting himself, to descend a steep slope and walk over a mile home—"virtually impossible in his condition"?

The issue does not argue against suicide. Years later, two elderly residents said that their ancestors, a father and grandfather respectively, had seen the painter in a different place, less than a half mile from the inn, entering a small farmyard where he did the deed. Yet both had seen the painter alone, and neither mentioned his having painting

equipment with him or being in the company of teenagers (872–73).

4. Why did van Gogh, if he intended suicide, fire the bullet at such an odd trajectory—the gun being "held too low and pointing downward" (854)—if he had meant to kill himself, say with a fatal wound to the heart? "It looked like the crazy angle of an accidental shooting," say the authors, "not the studied straightness of a determined suicide" (854). And why was the wound not a contact one but one "fired from farther out" (855)?

Asking such questions implies that the authors think all suicides are bold, coolly rational acts, carried out according to formula, whereas in fact they may be hesitant, erratic, and unusual. Van Gogh may have lacked decisiveness in committing the act, just as in an earlier self-wounding when he cut off only the lower portion of his ear (704). Thus the authors should beware of the false dichotomy of suggesting that, if van Gogh did not shoot himself in the head or heart, someone else probably fired the shot. As to the trajectory, it could suggest that the painter held the small-caliber revolver by the barrel in his left hand (with his palm on the underside rather than over the barrel) and, with his arms extended, pushed up and away on the trigger with his right thumb. He might even have jerked at the trigger, greatly altering the aim.

5. Why did van Gogh not shoot again when his first shot failed? Why did he "choose instead to take the far more painful and embarrassing path back to his attic room at the Ravoux Inn" (874)?

According to innkeeper Ravoux, as his daughter recalled: "Vincent shot himself and fainted. The coolness of the night revived him. On all fours he looked for the gun to finish himself off, but he could not find it. Then Vincent got up and climbed down the hillside to return to our house" (852). Then again, the adage "Once burned twice shy" may also have applied. Van Gogh did tell others—while he lay abed during the hours before his death—that he had intended to die. Artist Émile Bernard claimed van Gogh had told others he would "do it over again" (883, n. 87). (However, the authors, who are advocating a contrary view, call this "a red herring.")

6. When the police came to investigate the morning after the shooting, they inquired, "Did you want to commit suicide?" The wounded man replied, "Yes, I believe so." After they reminded him that suicide was illegal—a crime against both the state and God—he insisted that the deed was by his own hand, urging, "Do not accuse anyone; it is I who wanted to kill myself" (851). Does not this equivocation suggest that he was protecting the Secrétan brothers? But why? "The answer, we believe, is that Vincent welcomed death." Indeed, "Vincent must have seen no reason, no benefit, in dragging the Secrétans—even the mischievous, careless René—into the glare of public inquiry and embarrassment simply for having done him this favor" (875).

Actually, van Gogh's reply, "Yes, I believe so," obviously reflects his own uncertainty as to whether he meant only to hurt himself once again or whether he indeed meant to end his life. His equivocation confirms the indecisiveness of the act itself, as mentioned earlier. It most emphatically does *not* suggest he was unclear about who shot him! His subsequent insistence that he alone was responsible was no doubt so that the police would understand what happened and not go after some innocent party. Besides, if the Secrétans meant to kill Vincent, why did they not shoot him again? And if the shooting were accidental, why did they not lend assistance? The other brother was a good friend of the artist.

Psychological Autopsy

Having investigated a number of deaths—including homicide, suicide, and accidental cases for police departments and others (e.g., Nickell 1992), as well as enigmatic historical deaths (e.g., Nickell 2005)—I can say that such a death is no place to start with a supposed answer and work backward to the evidence. I believe Naifeh and Smith made just this mistake—an example of "confirmation bias."

In investigating a suspected or possible suicide, says one expert, "It is im-

portant to note that the deceased may have indicated an interest to commit suicide through activities and statements prior to death." Indeed, an in-depth *psychological autopsy* may be conducted "to determine the state of mind of a person prior to the fatal act" (Geberth 1993).

Van Gogh's famous letters (van Gogh-Bonger 1981) and other biographical materials provide ample information on his chronic depression—even periods of outright madness. As early as 1877 in Amsterdam he had mused on death as an escape, a chance to get "far away from everything." He spoke repeatedly of "emptiness," "deep melancholy," and "unutterable misery," often mentioning suicide—although usually rejecting it. At times, however, he found the "horror" and "loathing of life" so overwhelming that he would have embraced death gladly (Naifeh and Smith 2011, 852–53).

He occasionally mentioned the possibility of suicide by drowning. Once he wrote, "I am trying to recover, like someone who has meant to commit suicide, but then makes for the bank because he finds the water too cold." (Note again the theme of equivocation.) On being spurned in love in 1882, he contemplated "jumping into the water" out of despair (qtd. in Naifeh and Smith 2011, 853).

Van Gogh was used to inflicting harm on himself, being given to self-mortification. He held a doctrine of guilt and self-loathing, which he attributed in part to his Christian background, and stated, "When we look at others who have done more than we, and are better than we, we very soon begin to hate our own life because it is not as good as others" (letter of December 9, 1877). He frequently ate only bread, avoided an overcoat in rain and cold, suffered sleep deprivation, and slept sometimes on a hard floor or even the cold ground. At other times he flagellated himself with his walking stick, among other abuses. Although self-mortification is typically a different impulse than suicide, van Gogh's is not a typical case. His self-harm was clearly escalating. (See Naifeh and Smith, 167, 883 n. 39.)

Van Gogh had a number of breakdowns. During an especially tortured time, van Gogh lived disputatiously with fellow painter Paul Gaugin in Arles; van Gogh was on the edge, drinking absinthe and experiencing hallucinations. He wrote in his diary, "I ask myself whether I am mad." When Gaugin determined to leave, worrying that there might come "a fatal and tragic attack" (Naifeh and Smith 2011, 701) that would threaten his own safety, van Gogh's madness spilled over. Just a day before Christmas 1888, he cut off the lower part of his right ear with a straight razor. During his convalescence he realized he indeed suffered from insanity, and—for a year, from May 1889 to May 1890—committed himself to the asylum at Saint-Rémy where fits of depression alternated with spells of genius. At one point he wrote to Theo, "Oh, if I could have worked without this accursed disease—what things I might have done" (Naifeh and Smith 2011, 684–820).

His last letter was to Theo (whose handwritten notation it also bears: "Letter found on him July 29"—the day of van Gogh's death). It does not seem a final letter, and was probably written between July 23 and 27. Yet its last paragraph reads in part, "Well my own work, I am risking my life for it and my reason has half foundered because of it. . . ." The letter is unfinished and unsigned. (See van Gogh-Bonger 1981, III: 298.) Just a week before, Theo had written hauntingly, "As long as he's not melancholic and heading for another crisis, it was all going so well." Having talked with his brother, Theo concluded after the shooting that Vincent had lost "faith in life." His repeated failures, unending poverty, and deteriorating health were obvious chronic factors (Naifeh and Smith 2011, 843, 856, 858).

Van Gogh's life reveals numerous warning signs frequently associated with suicide. The persistence of his situation appears to have resulted in what suicide expert Irving Berent, MD, (1981) calls "chronic unrelenting stress syndrome"—the result of such an "onslaught" of trauma as to cause "erosion of the spirit" and so lead potentially to suicide.

Van Gogh was used to inflicting harm on himself, being given to self-mortification. He held a doctrine of guilt and self-loathing, which he attributed in part to his Christian background.

Alibis and Other Loose Ends

If Naifeh and Smith think they have a smoking gun in the statement of René Secrétan, they need to think again. It appears the Secrétan brothers had an alibi: They had left Auvers for Normandy before van Gogh was fatally shot.

The very same account by eighty-two-year-old René that Naifeh and Smith introduce and use in an attempt to incriminate him—even though he gave not the slightest indication that he or any other boy had shot the painter—provides him with an alibi. The authors read one of René's statements as implying "that Vincent had stolen the pistol from him on the very day of the shooting," but that is not implied at all. What René said was, "We left [the erratically working gun] on the spot with all our fishing stuff, haversacks . . . and even our trousers. . . . As fate would have it, the day Van Gogh used it, it worked" (882, n. 69). He does not say it was *taken* on that day.

The issue is important because what René does clearly say is that he and his older brother had left Auvers (where

they spent summers at their wealthy father's villa on the Oise River) sometime earlier that month. They had gone to another family villa located in Normandy. While away from Auvers, the Secrétans first learned of van Gogh's death from a newspaper. René also stated that he did not discover the gun was missing prior to leaving Auvers.

In any event, I think the aging René's account of the pistol is not trustworthy. Perhaps he had borrowed it from the innkeeper and—having forgotten over the following sixty-six years—had returned it. We certainly must wonder: If van Gogh had stolen the pistol from René in order to shoot himself, how did René instead get it back so that *he* could shoot van Gogh before he shot himself? And if René was lying about the supposed theft, why should we believe anything he says? Moreover, if René had shot the artist, accidentally or otherwise, it seems unlikely he would even have brought up the subject of the painter and the pistol. Why not let sleeping dogs lie? Naifeh and Smith (2011, 876) think it was "to ease his conscience at the end," but then René did *not* unburden himself of the very act that would have needed confessing.

Channeled Artist

Putting aside for the moment whether van Gogh's death was an accident, murder, or suicide, we pause to consider: Is he still alive as a spirit anyway? That is the claim of a Brazilian medium named Florencio Anton who purports to channel the famous Dutch painter, produce modern artworks in (loosely) his style, and then sign them "Vincent." He also allegedly channels Renoir, Picasso, Miro, and others.

Some readily accept the pseudo-creations, while others question why the various artists still paint unmistakably Earth-like scenes. Anton responds that the pictures are not of this world but rather of a plane of existence in the similar-appearing next world—although curiously, comments Roy Stemman (2010) of the Paranormal Review website, the discarnate folk in the other realm "continue to dress as they did at the time of the artists' earthly existence."

Actually, people like Florencio Anton crop up from time to time. For example, not only did a British woman named Rosemary Brown specialize in playing newly composed music by such famous dead composers as Bach, Chopin, Mozart, and Liszt, but she also took dictation from playwright George Bernard Shaw and others and received drawings and paintings from various artists. She was followed by one Matthew Manning who also channeled texts and artworks by famous artists (Guiley 2000, 26–27). Such phenomena are called *automisms* and are due to the ideomotor effect—that is, the unconscious muscular activity that is also responsible for the movement of dowsing rods and Ouija board planchettes. Such automists tend to be little more than mimics. A channeled Abraham Lincoln text I once examined neither matched the assassinated president's distinctive handwriting nor passed a forensic-linguistics test (Nickell 2007, 39–47).

Automists tend to have fantasy-prone personalities; that is, they are sane and normal people who nevertheless have a marked tendency to fantasize. Florencio Anton is such a person, exhibiting a number of traits associated with fantasy proneness, such as receiving special messages from higher beings, experiencing trances, and having alternate identities (see Nickell 2007, 251–258).

The Verdict

Apparently neither Anton nor any other spiritualist has been able to communicate with van Gogh successfully regarding the details of his fatal shot. Until that happens in a credible fashion (and I am not holding my breath), I will continue to conclude that he died by his own hand. That should be the verdict of history, based on the best evidence—the rudimentary forensic evidence and a psychological autopsy—with an appeal to the principle of Occam's razor: that the hypothesis that makes the fewest assumptions is most likely correct.

Authors Naifeh and Smith would have us assume that a late rumor about van Gogh being shot by boys is true, that a particular teenager was the culprit, that the youth told the truth in several respects but lied outright in others, that he inexplicably removed the artist's painting apparatus from the scene, that van Gogh falsely claimed he had shot himself, that he was not actually likely to have attempted suicide, that the innkeeper's daughter repeated a false story from her father about the pistol, and so on and on. In contrast it is likely that van Gogh, despairing over his life, shot himself with a pistol—ostensibly borrowed *to scare up the crows*. ■

Note

1. It was not his very last painting, having been done about July 10, over two weeks before his suicide (Naifeh and Smith 2011, 879).

References

Berent, Irving. 1981. *The Algebra of Suicide*. New York: Human Sciences Press.

CBS News. 2011. The life and death of Vincent van Gogh. *60 Minutes* (October 16).

Geberth, Vernon J. 1993. *Practical Homicide Investigation: Tactics, Procedures, and Forensic Techniques*, 2nd ed. Boca Raton, Florida: CRC Press.

Guiley, Rosemary Ellen. 2000. *The Encyclopedia of Ghosts and Spirits*, 2nd ed. New York: Checkmark Books.

Naifeh, Steven, and Gregory White Smith. 2011. *Van Gogh: The Life*. New York: Random House.

Nickell, Joe. 1992. *Mysterious Realms: Probing Paranormal, Historical, and Forensic Enigmas*. Lexington: University Press of Kentucky, 107–29.

———. 2005. *Unsolved History: Investigating Mysteries of the Past*. Lexington: University Press of Kentucky, 18–33.

———. 2007. *Adventures in Paranormal Investigation*. Lexington: University Press of Kentucky.

Stemman, Roy. 2010. A Vincent van Gogh now adorns my wall. Online at http://paranormalreview.com/articles/20100502; accessed January 11, 2012.

Van Gogh-Bonger, Johanna. 1981. *The Complete Letters of Vincent van Gogh*, in three volumes. Boston: New York Graphic Society.

Was Vincent van Gogh murdered? 2011. Online at http://theweek.com/article/index/220446/was-vincent-van-gogh-murdered; accessed December 7, 2011.

[THINKING ABOUT SCIENCE MASSIMO PIGLIUCCI

Massimo Pigliucci is professor of philosophy at the City University of New York–Lehman College, a fellow of the American Association for the Advancement of Science, and author of *Nonsense on Stilts: How to Tell Science from Bunk*. His essays can be found at www.rationallyspeaking.org.

What's So Bad about Ad Hoc Hypotheses?

Ad hoc hypotheses are a staple of skeptical criticism of pseudoscience. I once participated in an experiment (well, really, a demonstration) about dowsing, during which we showed that the alleged dowsing powers of our subject were not, in fact, capable of finding water in randomized covered buckets any better than was predicted by chance. The funny (to us skeptics) thing was that the dowser had tested his "powers" that day by checking that his dowsing rod was in fact working—when he could see whether there was or wasn't water in the buckets. Faced with his abysmal failure during the actual test, the dowser in question used an old trumping card of the pseudoscientist: it was the presence of skeptics that had interfered with his powers. Since it is hard to imagine a credible test of paranormality that doesn't involve the presence of skeptics, the "hypothesis" is as ad hoc (literally, "to this [specific purpose]") as they come.

But now consider this quite different example. In 1887, A.A. Michelson and E.W. Morley carried out a famous experiment to test the idea of the existence of ether, a mysterious substance that was thought to pervade space and allow light to propagate in it. The experiment failed, paving the way for the rejection of the notion of ether in physics, and it was eventually reinterpreted as a major confirmation of Einstein's theory of special relativity. And yet, as Christopher Hunt points out in his brilliant recent paper on ad hocness (*Philosophy of Science*, January 2012), "George FitzGerald (in 1889) and Hendrik Lorentz (in 1895) independently suggested another explanation [of the Michelson-Morley negative result]: the length of the arm of the equipment parallel to the ether wind shrank, because of an electrical effect caused by the ether, by exactly the right amount to produce a null result." To the ear of the contemporary scientist this should sound almost as preposterous as the idea that skeptics weaken paranormal powers below detectability, but the so-called FitzGerald-Lorentz contraction was advanced by established scientists and was eventually incorporated into our understanding of special relativity (though still not as an explanation of the lack of evidence for ether). What gives?

Hunt provides several other examples of ad hoc hypotheses entertained by the scientific community (my favorite being Dennis Sciama's "continuous creation" hypothesis in support of the steady state model of the universe and against the rival Big Bang theory). Hunt uses these examples to debunk the notion—popular among philosophers and skeptics alike—that ad hoc hypotheses are invariably bad and easy to spot as such, *contra* what Karl Popper (he of the idea of falsificationism, see this column's "Philosophy of Science 101," SI, May/June 2004) famously maintained.

For instance, Hunt examines the Popperian idea that one crucial way to distinguish good from ad hoc hypotheses is that the latter, but not the former, make predictions about genuinely new phenomena. But the evidence from the history of science clearly shows that scientists actually give a lot of weight to retrodictions, i.e., to novel explanations of already known phenomena, if they appear to be fruitful within the currently accepted paradigm of a given field of research.

Another giant of philosophy of science, Carl Gustav Hempel, suggested that perhaps what distinguishes an ad hoc hypothesis from a genuinely scientific one is that the latter makes "interestingly different" predictions, as opposed to trivial ones. But as Hunt immediately points out, this makes the whole thing pretty darn subjective: one scientist's "interesting" prediction is another scientist's trivial one (or vice versa).

What then? Hunt endorses Jarrett Leplin's analysis of the issue of ad hocness, coming to the somewhat startling conclusion that the history of science suggests two major generalizations about ad hoc hypotheses: first, an individual scientist's judgment of a given hypothesis as ad hoc (or not) is largely based on a subjective evaluation and informed by aesthetic criteria; second, the judgment of the scientific community at large about a given hypothesis often changes retroactively, depending on whether that hypothesis has been of actual value in the scientific process or not—something that is often impossible to assess at the moment when the hypothesis is first proposed.

Hunt then goes a step further to suggest that the very concept of ad hocness ought to be abandoned on the ground that it doesn't do any useful work, perhaps to be replaced by notions such as "warranted" and "unwarranted." I don't think the latter solution is any better than the problem it is supposed to solve, and I also think Hunt goes too far in attempting to throw the whole idea of ad hocness out the window. Just because there is an element of subjectivity in science (is anyone really surprised by that?)—and even a role played by non-empirical standards like aesthetics (again, surprising?)—doesn't mean that there are no differences between my dowser's response to the failure of our little experiment and the FitzGerald-Lorentz contraction. The real lesson for scientists, philosophers, and skeptics alike is that scientific theorizing is a complex activity that is not just the result of the application of strictly epistemic rules. Subjectivity, extra-empirical criteria, and even historically evolving standards are involved. Science (and skepticism) is a human activity, done in the usual human, messy, not at all air-tightly logical way. But it seems to work, most of the time. ■

Massimo Polidoro is an investigator of the paranormal, lecturer, and cofounder and head of CICAP, the Italian skeptics group. His website is at www.massimopolidoro.com.

Alien Mug Shots

The Ten Best (or Worst) Photos of Aliens

Photos of supposed UFOs abound. Most of the time they show dark stains or bright dots in the sky, of varying dimension and quality, which could be due to a lot of things: military aircrafts, weather balloons, birds, meteors, etc. Sometimes the UFO is well focused, but the flying saucer always looks suspiciously similar to a pan lid suspended from a thread or a lamp holder or a wheel cap thrown in the air. And of course today the possibilities for digitally retouching an image are endless.

What are lacking, however, are credible photos of the creatures that should be flying these UFOs—the actual aliens or extraterrestrials. It appears there are no more than fifty such photos shot in the past eighty years, but once you take out those plainly fake and the more suspicious looking ones all you are left with are about ten photos. These are, essentially, "mug shots" of wanted extraterrestrials. Here is my personal list of the best (or worst) photos of aliens.

10 High Bridge, New Jersey (August 2, 1956)

Howard Menger was a well-known American contactee who claimed he had met extraterrestrials throughout his whole life. He detailed in his books his chats with friendly Adamski-like Venusian "space brothers" who also gave him a wife and took him on their bases on the Moon and on Venus. This is one of the photos that he took of his ET friends; interestingly, in his photos the aliens are always dark shapes illuminated from behind. They almost look like Menger's mother or wife coming out in the porch at night with a flashlight in hand, calling for that weird Howard, always lost in his UFO dreams.

9 Lossiemouth, Scotland (1954)

Cedric Allingham was an amateur ornithologist who was looking for birds in the North of Scotland when he saw a flying saucer descend to the earth. One of the occupants exited the spaceship and walked up to him. The alien told him he was coming from Mars and, after a little chat, left. Precisely in that moment, Cedric took this picture. Well, yes, the beanpole here looks more like a janitor or a plumber than an extraterrestrial. However, it was later suspected that Cedric Allingham never existed and that the photo was circulated by Patrick Moore, an astronomer well known for his pranks.

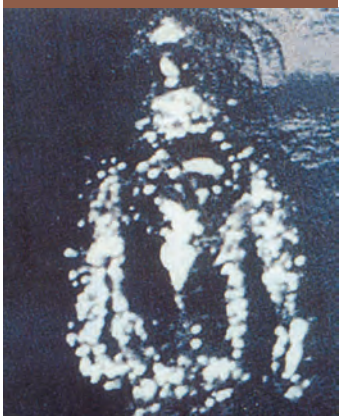
8 Carp, Ontario, Canada (August 15, 1991)

The photo of this alien "entity" was supposedly taken along with the film of a UFO landing. The fact that nobody knows who took the photo or the film, both sent by an unknown person calling him or herself "Guardian" to Tom Theofanous, a Canadian UFOlogist, does not help in taking the photo seriously. Other messages sent by "Guardian" describing a "conspiracy between the Chinese and Grey Aliens planning to take over the world" did little to increase its credibility.

7 Alaska (1930s)

This seems to be the most ancient of the lot, even if it was seen for the first time in 2003. The anonymous source claims that his grandfather took the picture seventy years before in Alaska and gave it to him the day before he died. Nothing is known about the photographer, the location, or the date of the photo. Some thought that since the little man seems to be leaning on one side it might actually be a dummy. What is more suspicious, however, is the fact that with the original source "conveniently" dead exactly one day after his revelation (isn't that a little too trite?), all possibilities of verifying the story are defunct.

6 Falkville, Alabama (October 17, 1973)



That night, police chief Jeff Greenhaw received a phone call from an excited lady who said that she had witnessed a "spaceship" land in an open field not far from the town proper. The sheriff took off with a camera and found a "tinfoil alien" who consented to be photographed but then ran away. The ridicule that the whole story brought on the sheriff's office cost Greenhaw his job as well as his wife. Some think that he may have encountered someone wearing a fireman's asbestos suit; others, however, think that the being in the suit was a friend of Greenhaw and that the whole thing was an attempt to get famous that went terribly wrong.

5 Ilkley Moor, England (December 1, 1987)

Taken by ex-policeman Philip Spencer, the photo seems to show an alien examining the bleak moor. Too bad the picture is taken from so far away and is so out of focus it is devoid of any discernible detail. But wait, Spencer also has a story that he was later able to remember (thanks to regressive hypnosis) about him being abducted by the aliens, taken on a spaceship, brought to space, shown a couple of movies about the destruction of Earth, and then returned to the moor. Unfortunately, no photos of the spaceship or close-ups of the aliens were taken.

1 Solway Firth, England (May 24, 1964)

This is probably the most intriguing photo of them all. Jim Templeton, a retired fireman, was taking pictures of his daughter on the Solway Marshes in Cumbria, north of England, but when he had them developed he found that behind the girl was a big, tall fellow in what looked like a white "spaceman" suit. He was quite sure that there was no one there when he took the photo. The case quickly became an international affair and so far no one has been able to explain the photo. Templeton, who later said he received a visit from two "men in black" who claimed to be from the government, was also known for his practical jokes. Could the photo be one of those jokes? Or maybe

4 Wiesbaden, Germany (April, 1950)

This picture, undoubtedly one of the best, was found in 1977 among the documents made public by the FBI on request of the UFO Information Network. The photo seems to show an alien, with an odd breathing tube in its mouth, being escorted by two uniformed agents. Presumably the alien was captured alive after falling to the ground with his spaceship. A great photo! Too bad that in 1981 German journalist Klaus Webner discovered that it was actually an April Fool's hoax made by photographer Hans Scheffler, who airbrushed an image of his five-year-old son Peter holding hands with two real soldiers. The photo had been published in the German newspaper *Wiesbadener Tagblatt* on April 1, 1950, and was later revealed to be a joke.

3 Cologne, Germany (April 1, 1950)

This is even better, but the day on which it was taken clearly gives away its true origin. Published by German photo magazine *Neue Illustrierte*, it was a crude photomontage part of a page devoted to the Aztec Saucer Crash hoax of 1948, the same episode (Roswell was still not popular back then) that inspired the Wiesbaden hoax. Incredibly, some uninformed UFOlogists still take both pictures as real proof of aliens.

2 South of Laredo, TX (July 7, 1948)

This one, purportedly showing the remains of a large headed alien (known among UFO buffs as "Tomato Man"), has often been shown as proof that aliens actually crashed with their UFOs on Earth. A more careful examination, however, reveals that the picture displays the remains of a human pilot perished in a plane crash. The human nature of the body is clearly revealed by the frames of a pair of eyeglasses near the right shoulder, while the earthly origin of the vehicle is shown by a close scrutiny of the structural remains: conductor cables, a six-sided hex nut, tubular piping, angle iron, and many welded areas all look man-made, and the welds conform to standard procedures of the time.

someone in the processing lab, knowing Jim's penchant for tricks, decided to tamper with the film and play one on him? But then, perhaps because the image immediately received world-wide fame and Templeton's daughter was bullied and had to be taken out of school for a while, it became embarrassing for Jim or anybody else to confess the hoax? We don't know and will never know now that Jim Templeton is dead. There are many other instances, however, in which phenomena that started as jokes quickly got out of hand: think of the Fox sisters tricking their parents with an apple bumped on the floor and inadvertently starting Spiritualism, or the two little girls in Cottingley who photographed "fairies" (that were thought to be real by none other than Sir Arthur Conan Doyle) and waited sixty years before confessing. Maybe things went the same way with the Solway Spaceman. It would have been typical. A typical case of UFOolery. ■

Sheaffer's "Psychic Vibrations" column has appeared in the Skeptical Inquirer for more than thirty years; its highlights have now been published as a book (Create Space 2011). Sheaffer blogs at www.BadUFOs.com, and his website is www.debunker.com.

'Top Ten' UFO Case: Yukon, Canada, 1996—Busted!

"We are all greater artists than we realize," Nietzsche famously wrote concerning the way our minds construct reality. The following incident illustrates the "artistry" to which Nietzsche referred.

On the evening of December 11, 1996, more than thirty people in several different locations in Canada's sparsely populated Yukon Territory reported seeing a huge UFO "mothership" with rows of lights flying by in what would be classified as a "close encounter of the first kind" (http://tinyurl.com/79nkhcm).

The documentary film *Best Evidence: Top 10 UFO Sightings* lists this "multiple witness sighting in the Yukon" as number eight of the top ten UFO cases of all time (http://tinyurl.com/6sn9wln). In that film the celebrated "flying saucer physicist" Stanton Friedman says:

> The Yukon case *is* emblematic of what a good case should be. I mean, sure, we'd like to have a piece of the craft, we'd like to have the crewmember introduced for dinner. *But* multiple independent witnesses lasting a long time, describing something that's *way* outside the norm—there's no way you can make it into [i.e., interpret it as] a 747 [airplane], for example [chuckle]. And big, but this was much, much bigger than a 747.

Longtime UFOlogist Michael Swords of the Center for UFO Studies says:

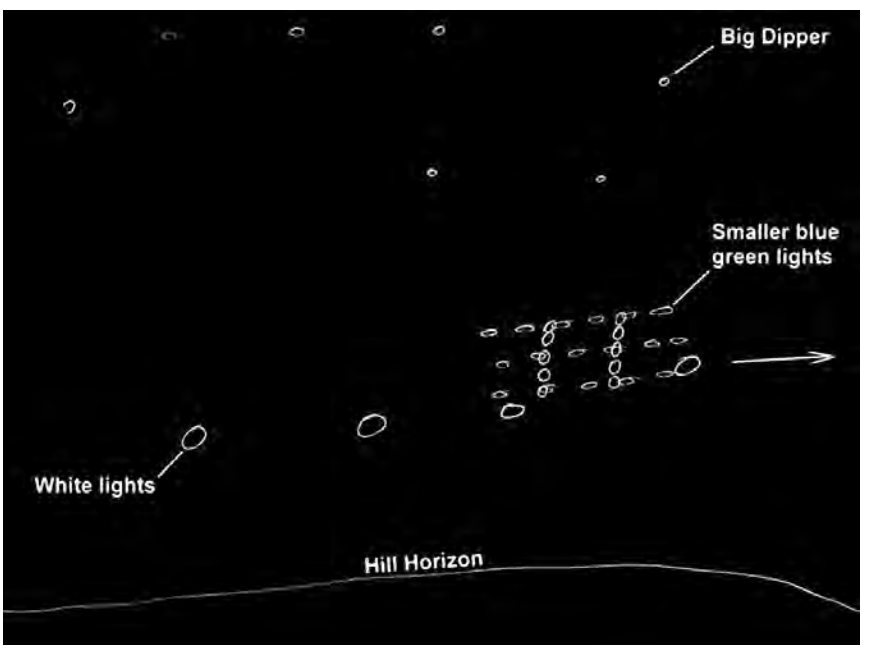
> Not knowing [investigator] Martin Jasek I can't "stand up in court" on this one, but everything that I've heard says that this is not only a "good" but possibly one of the best cases ever.... I look forward to any of the gang clearing my misconceptions up on this case, because right now it might be one I'd "take into war" with me. (http://www.nicap.org/961211yukondir.htm)

What Was It?

On April 4, 2012, the British skeptic Ian Ridpath sent an email to a number of active UFO skeptics, asking if any of them had information on this case. James Oberg replied that he was unable to help because he was in Beijing, China, headed for North Korea; he was traveling with the NBC news team to witness North Korea's new missile before its (unsuccessful) launch. (His reporting on this unprecedented trip can be found on his website at www.jamesoberg.com/.)

When he returned, Oberg contacted Canadian satellite expert Ted Molczan with the details of the case. Molczan is probably the world's top civilian expert on observing Earth satellites and calculating satellite orbits. Molczan looked into the matter carefully and came up with an exact match: "the observed phenomena were due to the reentry of the second stage of the rocket that placed Cosmos 2335 into orbit earlier the same day" (1996-069B/24671, http://tinyurl.com/89omf8o). Should anyone doubt this, Molczan provides details of the mathematical calculations that support this conclusion. Later, satellite expert Harro Zimmer refined the details of the reentry decay of the Russian Cosmos 2335 rocket booster (http://satobs.org/seesat/May-2012/0022.html), giving even greater precision to the object's position and velocity during reentry. It fully confirms Molczan's identification. The world's experts on satellite orbits and reentries are in full agreement: the 1996 Yukon UFO coincides exactly with the breakup of the rocket booster of Cosmos 2335.

Oberg placed a comment on the Above Top Secret forum discussing this case (http://tinyurl.com/7oaebjp)—to which many objections were made, of course. But this is not the first time a satellite reentry has given rise to widespread UFO reports. There was the fa-



One observer drew the path of the UFO, left to right, below the Big Dipper.

mous Zond 4 reentry UFO in 1968 (http://www.isaackoi.com/ufo/19680303-zond-4-re-entry.html), as well as reentries seen widely in Europe in 1990 and 1994 (http://www.zipworld.com.au/~psmith/pilot-ufos.html).

Stimulus/Response

A case of this type affords us an excellent opportunity to judge the credibility of eyewitness testimony. Given a known stimulus *in*, what is the observer's response *out*? In other words, how accurately did the observers' descriptions match the known stimulus? Overall, not well at all!

REPORT: "Many rows of lights."

Reality: The booster disintegrated into an irregular train of debris that was perceived as an orderly pattern of "lights" on a huge solid object.

REPORT: "As he was walking his flashlight happened to point in the direction of the UFO. As if reacting to his flashlight, the UFO started speeding rapidly toward him."

Reality: The UFO reacting to him was entirely in his imagination. The rocket booster did not react to his flashlight.

REPORT: "The UFO was hovering approximately three hundred yards in front of the observer. Hynek Classification: CE1 (Close Encounter of the First Kind)."

Reality: The distance to the reentering booster was approximately 233 km (145 miles), so this was not a "close encounter." At no time did the rocket booster stop or hover.

REPORT: "The UFO was approximately 500–750 meters (up to 1/2 mile) in length."

Reality: It is impossible to estimate the size of an unknown object unless its distance is known. Since the disintegrating booster was about 145 miles distant, its debris train must have been spread over many miles.

REPORT: "The interior lights in her car started to go dim and the music from her tape deck slowed down."

Reality: This effect was entirely in the observer's imagination. The rocket booster did not affect her car's electronics.

REPORT: "Stars blocked out by huge UFO."

Reality: The observers were viewing a long train of debris from the disintegrating rocket booster. It was not a solid object, and thus could not have "blocked out" stars. However, the light from the reentry may have made nearby stars difficult to see.

Many UFO proponents criticize the above analysis as absurd. One anonymous poster on Above Top Secret said that the analysis "ignores 90% of witness testimony then discounts the rest." But this places the poster in the position of claiming that the alien spaceship was flying at exactly the same location and direction and time where the rocket booster was burning up. Molczan closed his analysis by saying that

> Experienced sky watchers on See Sat-L may find it difficult to believe that anyone could misidentify a reentry as a spaceship, but human perception is notoriously fallible, and no one is immune. Much depends on the circumstances and personal experience. Driving through the wilderness under a pitch black sky, and suddenly faced with a slowly moving formation of brilliant lights can be awe-inspiring and even terrifying. The human mind races to make sense of the unfamiliar, drawing on experience that may be inadequate. Depth perception can play tricks, such that something 200 km away, 100 km long, and moving at 7 km/s, seems to be just 200 m away, 100 m long, and moving 7 km/h—the angular velocity is roughly the same. Taking these considerations into account, the eyewitnesses did a pretty good job, and need not be embarrassed for having perceived more than was there.

He left out the part where the observers reported the object hovering, the electrical interference, etc. Not "a pretty good job" of observing in my book.

Here we have yet another clear-cut example of extraordinary reports ("giant UFO Mothership!") arising from a perfectly ordinary, if rare, phenomenon. *Therefore, the existence of extraordinary reports does not suggest the existence of extraordinary objects.* It is perfectly possible to get extraordinary reports from ordinary objects.

This gives us more evidence of the wisdom of the Royal Society of London, the world's first scientific body (founded in 1660), which takes as its motto *Nullius in Verba*: take nobody's word for it! ■

Observers reported a close encounter of the first kind with a giant UFO. What they saw was actually the reentry decay of the Russian Cosmos 2335 rocket booster.

Kenneth W. Krause is a contributing editor and "Science Watch" columnist for the Skeptical Inquirer. He may be contacted at krausekc@msn.com.

Saving Us from Sweets: This Is Science and Government on Sugar

I've carried an intense personal grudge against "sugar" for decades. No, not the mostly benign, unrefined types packed into blueberries, green beans, and pumpernickels, for example. And no, not *only* the sickly sweet stuff shamelessly dumped into sodas, pastries, and swirling coffee froths either. I truly despise every pale-ish, pure and innocent looking slice of bread, wedge of potato, and grain of rice, and, I promise you, no pasta noodle, cracker, or corn flake will ever again bamboozle its way into my ever-shriveling food pantry.

At emotionally critical moments, my well-intentioned mother told me I was "husky" or "big-boned," which, by the way, is never true if it needs to be said. I was just plain F-A-T—obese, actually, just like more than a third of Americans today—until my junior year of high school. At that fateful point, I got fed up and decided to take matters into my own ignorant yet determined hands. Thanks to vigorous exercise and a dramatically reformed diet, I dropped seventy pounds in about three months. From then on, my world just got bigger and brighter.

Even now, at age forty-seven, I can relish every exhilaration my aging body will tolerate. In fact, I've recently given up weight lifting and jogging for power lifting, plyometrics, and high-intensity intervals. Last month, I took up mountain biking (the initial wounds should heal well before publication) because road cycling just wasn't exciting enough anymore.

I'm not bragging. Truth be told, I'm not particularly good at any of it. The point, rather, is that I love it all, and that I should have enjoyed an even richer physical life as a kid. In some tragic measure, I squandered the most dynamic years of my life guzzling and gobbling the same general strain of refuse that farmers use every day to fatten their cattle for slaughter. Yes, I'm a little bitter about sugar.

And I'm clearly not alone. "Clean-eating" advocates now dominate the nutrition world, and most of us agree generally with food guru Michael Pollan that we should eat less and that our diets should consist of mostly plants. Nevertheless, others in our ranks have lately embraced a more militant and less scientifically defensible approach to the problem.

A recent issue of *Nature* compared the "deadly effect" of added sugars to that of alcohol.

Take, for example, Robert Lustig, Laura Schmidt, and Claire Brindis, three public health experts from the University of California, San Francisco. In a recent issue of *Nature*, they compared the "deadly effect" of added sugars (high-fructose corn syrup and sucrose) to that of alcohol (Lustig et al. 2012). When consumed to excess, they observe, both substances cause a host of dreadful maladies, including hypertension, myocardial infarction, dyslipidemia, pancreatitis, obesity, malnutrition, hepatic dysfunction, and habituation (if not addiction).[1]

Far from mere "empty calories," they add, sugar is potentially "toxic." It alters metabolism, raises blood pressure, causes hormonal chaos, and damages our livers. Like both tobacco and alcohol (a distillation of sugar), it affects our brains, encouraging us to increase consumption. Indeed, they say, worldwide sugar consumption has tripled in the last fifty years.

Thus, Lustig et al. infer that sugar is at least partly responsible for thirty-five million deaths every year from chronic, non-communicable diseases, which according to the United Nations now pose a greater health risk worldwide than their infectious counterparts. The authors also point out that Americans waste $65 billion in lost productivity and $150 billion on health-care related resources annually vis-à-vis illnesses linked to sugar-induced metabolic syndrome.

At the risk of piling on, I should emphasize that 17 percent of U.S. children are now obese too, and that the average American consumes more than forty pounds of high-fructose corn syrup per year. Recent investigations suggest that sugar might also impair our cognition. For example, in a new study from the University of California, Los Angeles, physiologist Fernando Gomez-Pinilla concludes that diets consistently high in fructose can slow brain functions and weaken memory and learning in rats (Agrawal and Gomez-Pinilla 2012).

All of this reinforces my already firm personal resolve. But apparently many accomplished scientists lack not only

confidence in our abilities as individuals to educate or control ourselves, but also respect for our rights to disagree or to make informed but less than perfectly rational decisions regarding our private consumption habits. As such, Lustig et al. urge Americans especially to support restrictions on their own liberty in the form of government-imposed regulation of sugar.

To support their cause, Lustig et al. rely on four criteria, "now largely accepted by the public health community," originally offered by social psychologist Thomas Babor in 2003 to justify the regulation of alcohol. The target substance must be toxic and unavoidable (or pervasive), and it must have a negative impact on society and a potential for abuse. Sugar satisfies each requirement, they contend, and is thus analogous to alcohol in terms of demanding bureaucratic imposition.

In a letter to me, Gomez-Pinilla echoed their concerns. Diabetes and obesity, he specified, come with greatly increased risks of several neurological and psychiatric disorders. In light of both the human and economic costs, he opined broadly, "it is in the general public concern to regulate high-sugar products as well as other unhealthy aspects of diet and lifestyle."

Unsurprisingly, the *Nature* paper inspired a flurry of defiant correspondences. Observers close to the sugar industry quickly took issue with both the researchers' facts and their logic. Richard Cottrell from the World Sugar Research Organisation in London first disputed the San Franciscans' calculation of worldwide sugar consumption (Cottrell 2012). Because global population has more than doubled since 1960, he corrected, intake has increased only by 60 percent, not 300 percent. Moreover, he added, consumption in the United States, the United Kingdom, and Canada has risen only marginally as a proportion of total food-energy intake.

Judging metabolic syndrome a "controversial concept" in itself, Cottrell then cited analyses from the United Nations, the United States, and Europe that found no evidence of typical sugar consumption's contribution to any non-dental disease. On the other hand, he chided, "Overconsumption of anything is harmful, including water and air."

Ron Boswell, a senator from Queensland, Australia, noted that while the overweight population in his country has doubled and the incidence of diabetes has tripled since 1980, sugar consumption has actually dropped 23 percent during the same period (Boswell 2012). To describe sugar as "toxic," he continued, "is extreme, as is its ludicrous comparison with alcohol." The senator then scolded Lustig et al. for risking "damage to the livelihoods of thousands of people working in the sugar industry worldwide."

Other writers were no less reproachful. Christiani Jeyakumar Henry, a nutrition researcher in Singapore, criticized the *Nature* piece for its exclusive emphasis on sugar (Henry 2012). Several foods with high glycemic indices, he noted, including wheat, rice, and potatoes, also contribute to both obesity and diabetes. Finally, writing from the University of Vermont, Burlington, Saleem Ali criticized the San Franciscans' "misleading" comparison of sugar to alcohol and tobacco, the former of which causes neither behavioral intoxication nor second-hand contamination (Ali 2012).

But David Katz, MD, renowned nutritionist and founding director of the Yale University Prevention Research Center, has long contested Lustig's claims. Last spring, for example, Katz characterized the researcher's dualistic, good vs. evil attacks on sugar as fanatical "humbug" (Katz 2011). "It is the overall quality and quantity of our diet that matters," he reasoned, "not just one villainous or virtuous nutrient du jour."

Refreshingly, Katz reassessed the subject from a broader, more reliable perspective based on evolutionary science. "We like sweet," he appreciated, "because mammals who like sweet are more apt to survive than mammals who don't. Period." Why should it shock and abhor so many of us that sugar is addictive? The real surprise, Katz answered, is not that high-energy food is habit-forming, "but rather that anything else is."

Katz's subsequent response to the *Nature* article, however, sends a frustratingly abstruse and well-mixed message. On the one hand, he recognizes that "Regulating nutrients, *per se*, is a slippery slope" (Katz 2012). Good intentions, he wisely if somewhat vaguely counsels, "could bog us down in conflict that forestalls all progress, distort the relative importance of just one nutrient relative to overall nutrition," and lead us to "unintended consequences."

On the other hand, Katz expressly defends some of Lustig et al.'s proposed governmental intrusions. Most reasonably, he favors restrictions on the sale of sugary products to kids where their attendance is officially compelled. "There is no reason," he argues, "why schools should be propagating the consumption of solid or liquid candy by students." Many locales have already seen fit to install such policies.

Far less noble, however, is the good doctor's support for punitive taxes on sugary drinks. "There is no inalienable right to afford soda in the Constitution," he observes.[2] Those of lesser means, Katz resolves, "should perhaps consider that they can't afford to squander such limited funds on the empty calories of soda." Indeed they should, but Katz never explains how people can make decisions already made on their behalf.

But—in the name of science, most regrettably—Lustig et al. advocate considerably more intrusive schemes decorously styled "gentle, supply-side" controls. Unsatisfied with a soda tax, they favor a similar penalty on "processed foods that contain any form of added sugars." That means ketchup, salsa, jam, deli meat, frozen fruit, many breads, and chocolate milk (now highly rated as a recovery drink following intense exercise). Ideally, the trio adds, such tariffs would be accompanied by an outright "ban" on television advertisements.

The San Franciscans would like to "limit availability" as well, by "reducing the hours that retailers are open, controlling the location and density of retail markets and limiting who can legally purchase the products." Alluding to a

(Continued on page 59)

[SKEPTICAL INQUIREE BENJAMIN RADFORD

Benjamin Radford is a research fellow at the Committee for Skeptical Inquiry and author or coauthor of six books, including *Tracking the Chupacabra: The Vampire Beast in Fact, Fiction, and Folklore.*

Tracking the Chupachameleon: Chupacabra Iconography

Q: It seems that early alien-like chupacabras look nothing like the monsters that people see today, which are mostly dogs. How has the chupacabra changed over the years?

—D. Ayers

A: One folkloric approach to investigating paranormal phenomena involves examining their changing cultural depictions. Society's conceptions of ghosts, for example, have changed significantly over the decades and centuries (see Finucane 1996)—as have descriptions and depictions of aliens (Nickell 2001), the Loch Ness monster (Loxton 2004), the Ogopogo lake monster (Radford and Nickell 2006), and many other cultural phenomena. The chupacabra monster has also evolved.

As I discuss in my book *Tracking the Chupacabra: The Vampire Beast in Fact, Fiction, and Folklore*, the chupacabra appears in several different forms. The original chupacabra was first sighted in 1995 Puerto Rico: a strange, alien-like bipedal monster with red eyes, long thin arms and legs, and a row of spikes down its back. This was the dominant version for about five years until a Nicaraguan rancher discovered a canine carcass and claimed it was a chupacabra; after that most alleged chupacabra carcasses assumed canine form—though the original, monster-like goatsucker remained popular in artistic depictions (for the obvious reason that images of mangy coyotes are not terribly interesting or compelling).

The reasons for this transformation are complex (for a detailed discussion see Radford 2011), but a close analysis of popular chupacabra images reveals much about how the public envisioned this vampire beast across different times and cultures. In my ongoing study of chupacabra iconography, I have collected over a dozen three-dimensional depictions of the vampire beast dating back to 1996. Here are seven different pop culture versions of the chupacabra, as depicted in toys, models, and figurines.[1] ■

This chupacabra, which seems to have first been produced around 2002, features most of the classic characteristics of the monster, taken directly from an account by Puerto Rican eyewitness Madelyne Tolentino in 1995. It has four fingers on each hand, three toes on each foot, dark red eyes, greenish-yellow skin with some hair along its back, thin arms and legs, and the series of spikes or spines going down the back. The sculptor added a snaking tongue as well.

Note

1. When dating and tracking cultural influences it's important to keep in mind the time lag between an artist's conception and the time a toy or model of that conception is produced and made commercially available, which tends to range from about nine months to a year or more. Thus, for example, a chupacabra figure that circulated in 2001 likely reflects a popular conception from 2000.

References

Finucane, R.C. 1996. *Ghosts: Appearances of the Dead & Cultural Transformation*. Amherst, New York: Prometheus Books.

Loxton, Daniel. 2004. The Loch Ness monster. *Junior Skeptic* 11(1).

Nickell, Joe. 2001. *Real-Life X-Flies: Investigating the Paranormal.* Lexington, Kentucky: University Press of Kentucky.

Radford, Benjamin. 2011. *Tracking the Chupacabra: The Vampire Beast in Fact, Fiction, and Folklore.* Albuquerque, New Mexico: University of New Mexico Press.

Radford, Benjamin, and Joe Nickell. 2006. *Lake Monster Mysteries: Investigating the World's Most Elusive Creatures.* Lexington, Kentucky: University Press of Kentucky.

This limited edition figure was designed by Sara Antoinette Martin for the designer toy company Kidrobot in 2008. With a felt-covered body, the figure stands eight inches tall and comes with three accessories: a goat skull, a small bird, and a wine glass of goat blood. According to the accompanying literature, El Chupacabra is "mild mannered with a cheery disposition," though "he is deeply ashamed of his vampiric ways and avoids human contact for fear of persecution."

This small (2.5 inch) figurine issued by the Max Factory company has the familiar red-eyed, spiky-backed, three-fingered and three-toed chupacabra standing over a dead goat on a grassy area. It also has one unusual feature in chupacabra morphology: partial webbing under its arms, possibly suggesting wings.

This highly detailed solid resin bust, sold as a kit by Disturbed Earth Productions circa 2008, is approximately seven inches tall and has many typical monster features including pointed ears, prominent teeth and tongue, and large creepy eyes—as well as the signature spine spikes. Model painting and assembly by Ray Ayles.

Figures A, B, C: These three chupacabras were sold as a set and created by a company called Galva, Inc. They were released in 1996, making them some of the earliest commercially produced chupacabra figures in the world. The variety allows us to trace different characteristics to various geographical and cultural regions of Latin America. All are bipedal, stand about seven inches tall, and are made of hollow soft plastic.

A. This gray Mexican chupacabra features an oversized cartoonish head, red eyes, and four-fingered hands. Donning a T-shirt that says "Mexico," green shorts, and tennis shoes, this fellow has a dead goat between his legs. He has several stubby points on his head, suggesting spikes, and overall resembles the Tasmanian Devil from Warner Bros. cartoons. The X (or crossed bandages) across his navel is a common stylistic flourish in Latin American cartoons.

B. This barefoot green Puerto Rican chupacabra sports a T-shirt with the word "Boricua" (a term used by Puerto Ricans to identify themselves) and shorts. He has captured food in both hands: a choking white chicken in his left and a goat in his right; both are alive but clearly in distress. Several of the chupacabra's distinctive spikes run down the back of his head, and his unusually long red tongue snakes out of his mouth down to his waist. Though far from menacing, the Boricua goatsucker is significantly less cartoony than the Mexican chupacabra.

C. This demonic, muscled chupacabra is far more realistic and menacing than the two other versions in the set. Its human-like torso and bulky arms exude power. Though its head and back lack spikes, it has Satanic horns and its red eyes are much more sharply arched than those of the others. It's holding a dead goat under one arm and seems ready to challenge any onlookers. It's not clear what region this version represents, but it's likely a composite imagined by the rest of the world (i.e., non-Latin Americans), including the United States, Europe, and elsewhere. As I discuss in *Tracking the Chupacabra*, paradoxically the monster was often taken more seriously (and envisioned to be more menacing) outside of regions where it was reported and sighted.

All photographs by Benjamin Radford.

ART and SKEPTICISM

Lampposts flicker to life as dusk descends on Skepticism Street. Electric bulbs—created by scientists not content to merely curse the darkness—light the way forward. We pass small stores offering stories, claims, and truths about politics, society, and everything else under the sun.
Some we've managed to close while others defiantly remain open for business. Here, soothsayers spin their ancient stories for teary masses; there, the sick line up for bottled water they call miracle medicine. Beneath the fine respectable veneers we (seemingly alone at times) recognize the rot of pseudoscience and superstition.

Myth and error stain the street; we know they can be removed with the cleansing power of science. But we also know that they will soon return: old wine in new bottles, myths discredited by our forefathers recycled for new generations. Skepticism is a long march in a seemingly unwinnable war, and our determined faces belie the fear that we are outmatched.

We push aside discouraging thoughts and look up, up beyond our pale blue dot to the wondrous starry night sky. Music and laughter and color and beauty beckon us. Our pace quickens as we approach our destination: Art Avenue.
Art renews us, nourishes our "souls." A long journey lies ahead, and there is much work to be done. But just for a while we can pause to savor the intersection of art and skepticism…

Nighthawks State of Mind

Jeremiah Moss

IN 1941, Edward Hopper began what would become his most recognizable work, one that has become an emblem of New York City. "*Nighthawks*," Hopper said in an interview later, "was suggested by a restaurant on Greenwich Avenue where two streets meet." The location was pinpointed by a Hopper expert, Gail Levin, as the "empty triangular lot" where Greenwich meets 11th Street and Seventh Avenue, otherwise known as Mulry Square. This has become accepted city folklore. Greenwich Village tour guides point to the lot, now owned by the Metropolitan Transportation Authority, and tell visitors that Hopper's diner stood there. But did it?

Not long ago, one of the readers of my blog, *Vanishing New York*, sent in an old photo of the lot. There was no diner, only an Esso gas station and a White Tower burger joint that looked nothing like the moody, curved, wedge-shaped lunch counter in *Nighthawks*. An urban mystery had just revealed itself: If the diner wasn't in the empty lot, then where was it?

Being an obsessive type, prone to delve, I began searching for Hopper's diner with the help of two of my readers. Multiple streets converge at Mulry Square, creating a shattered-glass array of triangular corners. The buildings wedge themselves into these tight angles, bricks tapering to near points, each structure bearing a Hopperesque resemblance.

I snapped photos of every possibility and checked them against their ancestral images in the New York Public Library's Digital Gallery. I made a trip to the city's Municipal Archives, where I scanned the 1930s atlases of Manhattan known as "land books," matched block and lot numbers to scratchy rolls of microfilm, and scrolled through muddy 1940s tax photos. Slowly, I began ruling out suspects.

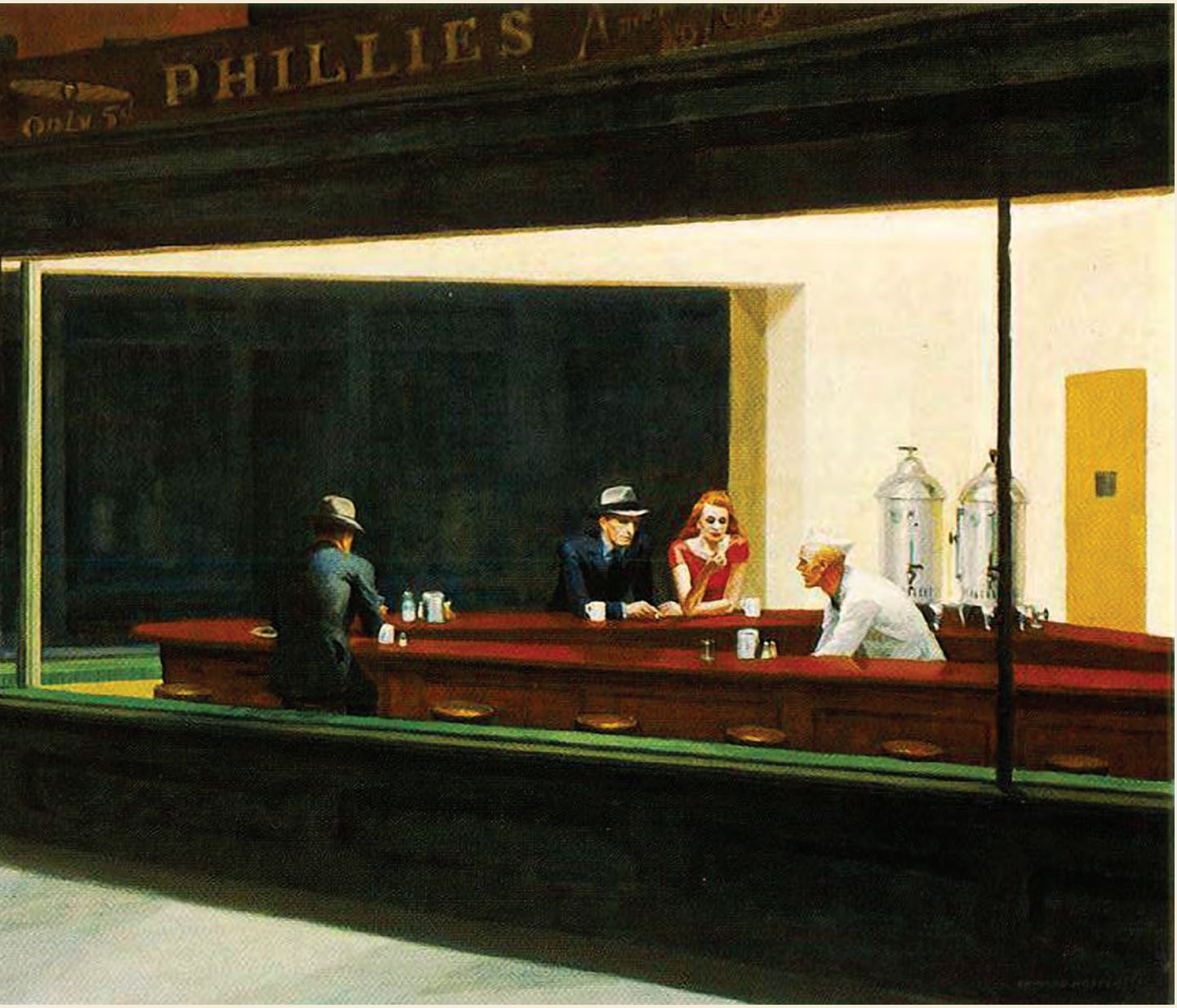
The empty lot at Mulry Square held a gas station from at least the 1930s through the 1970s, not a diner. I had to rule out the buildings on nearby corners of the square as well: West Village Florist was a newsstand. Fantasy World was a liquor store. Two Boots Pizza, with its lovely prow wrapped in rounded glass and chrome, was the Hanscom Bake Shop. And the pie-slice of a luncheonette that stood behind the lost Loew's Sheridan cinema was too blocky, too bricky to be the elegant diner in the painting.

So I expanded my search, looking at nearly every curvilinear corner where "two streets meet" off Greenwich Avenue. With each rejected candidate, my hopes of finding the *Nighthawks* diner fell.

After hours of hunting the archives, I was about to give up when I found a new clue in a 1950s land book. There in the map of Mulry Square, not in the empty northern lot but on the southwest side, where Perry Street slants, the mapmaker has written in all caps a single revelatory word: *DINER*.

I went into a state of panicky thrill. Sometime between the late 1930s and the early 1950s, a new diner appeared near Mulry Square. This was it. I could smell the coffee brewing. After decoding the block and lot number, written in script so small it required a Sherlockian magnifying glass, after retrieving the microfilm spool and scrolling to the specified location, I discovered ... *nothing*.

The tax photo showed only that old Esso station. I scrolled back and forth to be sure but found no photo of the southwest corner, no photo of the diner in question. Did the tax photographers forget to take its picture? Did they mislabel the lot? It's possible that I started muttering out loud to myself in the quiet of the Municipal Archives, because people began to stare.



Back home, I dug through my bookshelves and unearthed Gail Levin's *Edward Hopper: An Intimate Biography*. The book is autographed by the author—I had gone to hear Ms. Levin read in a bookshop that is now gone—and dated from a time when I was still new to the city and knew it largely, romantically, as a sprawling Hopper painting filled with golden, melancholy light. In the book, Ms. Levin reported that an interviewer wrote that the diner was "based partly on an all-night coffee stand Hopper saw on Greenwich Avenue . . . 'only more so,'" and that Hopper himself said: "I simplified the scene a great deal and made the restaurant bigger. Unconsciously, probably, I was painting the loneliness of a large city."

Partly. More so. Simplified. The hidden truth became clearer. The diner began to fade. And then I saw it—on every triangular corner, in the candy shop's cornice and the newsstand's advertisement for five-cent cigars, in the bakery's curved window and the liquor store's ghostly wedge, in the dark bricks that loom in the background of every Village street.

Over the past years, I've watched bakeries, luncheonettes, cobbler shops, and much more come tumbling down at an alarming rate, making space for condos and office towers. Now the discovery that the *Nighthawks* diner never existed, except as a collage inside Hopper's imagination, feels like yet another terrible demolition, though no bricks have fallen.

It seems the longer you live in New York, the more you love a city that has vanished. For those of us well versed in the art of loving what is lost, it's an easy leap to missing something that was never really there. ■

Jeremiah Moss is the author of the blog *Vanishing New York* (vanishingnewyork.blogspot.com). A version of this article appeared in print on July 5, 2010, on page A17 of the *New York Times*.

Science and Art: Complementary Disciplines

Joe Nickell

As Leonardo da Vinci so effectively showed us, science and art are not at war with each other; indeed, they can be quite complementary. Since childhood, when I dusted our house with fingerprint powder and incessantly drew and painted pictures, both disciplines have been part of my life, and today I frequently combine them in my work as a science-based investigator of strange mysteries—whether questioned writings or homicides, historical riddles, "paranormal" curiosities, or other enigmas.

Here are a few examples. The first is a watercolor sketch of a "haunted" lighthouse (Figure 1). Next is my recreation of one of the giant Nazca geoglyphs in Peru (Figure 2). A forensic illustration helps explain a case of alleged spontaneous human combustion (Figure 3), followed by a pen-and-ink rendering of another "haunted" site (Figure 4), and then my replication of the artistically "impossible" negative image on the Shroud of Turin (Figure 5). Finally, a poem—written in a free-verse style I call "improvisational rhyming"—addresses a paranormal topic.

We humans are both thinking and feeling creatures, but we must avoid the misuse of those attributes—for example, by thinking with our emotions. Surely we are at our best when head and heart work effectively together in our lives—though that is more easily espoused than accomplished.

Joe Nickell is CSI's senior research fellow. His doctorial dissertation (1987) was titled "Literary Investigation." His website is www.joenickell.com

Figure 1. The author and his wife (Diana Harris) picnic at "haunted" Seul Choix Point Lighthouse on Lake Michigan. (Watercolor sketch by Joe Nickell)

Figure 2. The author—"spider man"—stands inside the giant geoglyph he made for National Geographic Television, recreating (on a California ranch) one of the ancient ground drawings on the plain of Nazca in Peru using only sticks and string. (Photo by Joe Nickell)

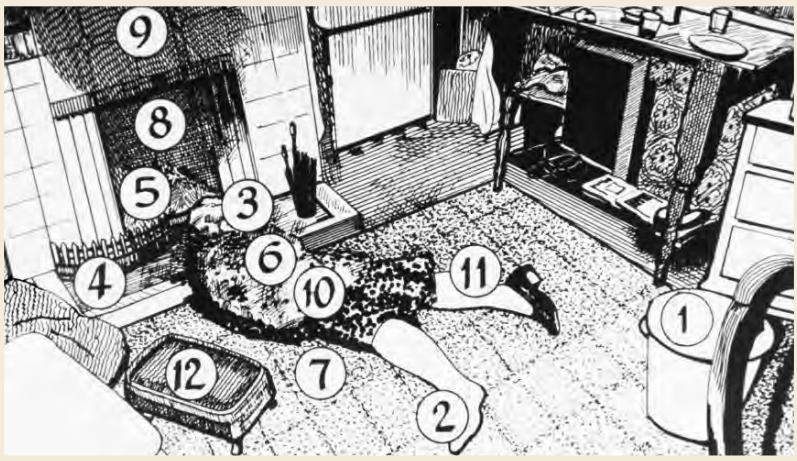


Figure 3. Forensic illustration reconstructing the 1980 death of an Englishwoman that some attribute to "spontaneous human combustion" but that was clearly caused by a fall in which her head struck the fireplace grate and caused embers to shower upon the body. (Drawing by Joe Nickell)

Figure 4. This shop built in 1809 stands at the restored Shaker Village of Pleasant Hill, which some say is a haunted place, although investigation suggests otherwise. (Drawing by Joe Nickell)

Figure 5. As with the notorious Turin shroud, this replication of the image's touted "photonegativity" is best appreciated in the photo-reversed "positive" image. Actually the shroud image is only a quasi-negative, effectively produced here by making a rubbing from a three-dimensional relief. (Image by Joe Nickell from a relief by Glenn Taylor)

Bigfoot

Man-beast,
creature
from the past,
lost
monster,
you wander
in and out
of sight,
of night,
of doubt,
yet

we wonder
at your great
foot-
prints,

here,
& here,
& there
one

more,
where
the trail ends—
but for strands
of polyester
hair,
perhaps a picture's
blur,
or
other
traces,
you just
gone,
back
where you lurk,
in the mind's
most
dark,
wilderness places.

—Joe Nickell
2006

Skepticism in the Video Box

Christian Walters

Skepticism is not just books and talks anymore. With the popularity of social media services, skeptical discussion and inquiry have moved beyond the written word and the podium. If you like your critical thinking in the form of a quick demonstration that can be as short as a music video, YouTube has you covered. We're going to look at a handful of popular skeptical YouTubers who have embraced the medium and the bandwidth with creativity, insight, and humor.

Captain Disillusion

One of the most popular and recognizable skeptical faces on YouTube, Captain Dillusion (CD) was created by independent filmmaker Alan Melikdjanian. He's been producing YouTube videos since 2008, featuring his bright yellow track suit and striking silver face paint.

Captain Disillusion focuses on investigating paranormal videos by explaining how such effects can be achieved. To prove his point, Captain Disillusion recreates the paranormal event with common film editing techniques and tools.

Melikdjanian's lighthearted but thorough approach has gained him more than 23,000 subscribers to his YouTube channel (www.youtube.com/user/CaptainDisillusion) and 3.2 million views. As of late 2011, you can subscribe to his videos via iTunes as well (http://itunes.apple.com/us/podcast/captain-disillusion/id461797766). Captain Disillusion videos post only every few months due to his high production standards, but Melikdjanian has recently started a series of "Quick D" videos for quick hit debunks, which post more frequently.

CD has taken on some of the most popular images in popular culture, including the face on Mars and the "ghost" in the *Three Men and a Baby* movie. He's also tackled persistent viral videos, such as the penguin slapping the other penguin into the water—yes, it's cute, but it's an obvious fake (penguin wings don't move like that anyway).

"Love with your heart. Use your head for everything else."—Captain Disillusion's sign-off

Skeptically Pwnd

If you need to let off some steam, Skeptically Pwned might be where you want to be. There are plenty of groups providing sober, reasoned inquiry into paranormal claims. You can listen to academic and intellectual discussions on a wide variety of topics. Or you can go to Skeptically Pwned's YouTube channel (youtube.com/user/skepticallypwnd/videos) and watch the Ghost Hunters get kicked in the crotch.

Skeptically Pwned is the creation of three skeptical comedians: John Rael, Matt David, and Jen Brown. In addition to some judicious kicking, they also created the "Shit Skeptics Say" series—a trilogy of embarrassingly familiar high-speed catch-phrases skeptics swap among each other regularly. The Skeptically Pwned videos probably won't convince any non-skeptics to change their views, but they might help skeptics decompress after a day in the trenches.

Richard Wiseman

Richard Wiseman is a professor of psychology at the University of Hertfordshire in the United Kingdom and a former magician. He's also the author of eleven books investigating subjects such as paranormal abilities, self-help books, and the peculiarities of human behavior. He also has a popular YouTube channel (youtube.com/user/Quirkology) boasting 58,000+ subscribers and thirty million views.

In his videos, Wiseman draws on his background as a magician and focuses primarily on mind games and optical illusions. His understanding of misdirection and how the human brain receives and processes information provides sharp insight into how easy we can be to trick. Wiseman's ready sense of humor makes his videos enjoyable and engaging even to people outside the skeptic community. The videos range from thirty seconds in length to about three minutes, so new viewers don't have to invest much before they get hooked. More information about Richard Wiseman is available on his website (www.richardwiseman.wordpress.com/).

Tim Minchin

Tim Minchin is an award-winning British-Australian musician and comedian who is gradually developing a fan base in the United States after having developed a following in the United Kingdom and Australia over the last ten years. He is an accomplished composer and pianist, and he is best known for his comedic songs dealing with skepticism ("If You Open Your Mind Too Much Your Brain Will Fall Out") and atheism ("The Good Book"). In 2011, he released an animated video of his ten-minute beat poem "Storm" describing a meal shared with a New Age alt-med practitioner. The video for "Storm" is available at www.youtube.com/user/stormmovie.

YouTube is filled with unofficial videos and bootleg recordings, but Minchin's official channel is available at www.youtube.com/user/timminchin/videos. Many of his videos (along with his tour dates and store) are also available on his website (www.timminchin.com/media/), including his popular song about the child molestation cover-up in the Catholic church. (Warning: Tim does not pull any punches with the language.)

Scam School

Scam School is the brainchild of American magician Brian Brushwood and Internet television network Revision3. In each episode, Brushwood demonstrates and exposes street scams, bar tricks, and other types of close magic. The show's advertising promises that you'll never have to pay for a drink again, but it also teaches you what to watch for to avoid being pranked.

Brushwood is an award-winning touring magician known for his bizarre tricks, including fire-eating, putting nails through his nose or hands, and mind-reading. His website with details about upcoming shows and his books is at http://shwood.com. The Scam School video channel is at www.youtube.com/user/scamschool. Scam School has been producing episodes weekly since 2008, and there are more than two hundred on YouTube now. The videos are roughly ten to fifteen minutes in length and include a demonstration and breakdown of classic bar tricks and other stunts.

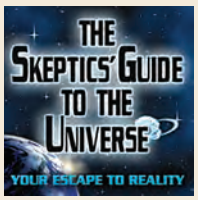
Brushwood is also host of the *Weird Things* podcast, which discusses supernatural and other strange news items.

Death By Puppets

Death by Puppets holds to the philosophy that most of life's problems are easier solved with puppets. They produce short videos with a skeptical flavor, with a generous helping of sarcasm and parody. And, of course, puppets.

Subjects so far have ranged from a support group for the reality-challenged and a restaurant specializing in quackery to a mockumercial featuring an enigmatic chupacabra. They posted their first video on April 1, 2012, and have been releasing videos every few weeks. Maria Walters founded Death by Puppets by bringing together the talents of artists in the skeptical community. Charles Pillsbury, puppet builder and lead puppeteer, builds puppets as needed based on scripts by Steve DeGroof of the Tree Lobsters webcomic.

The Skeptics' Guide to the Universe



The Skeptics' Guide to the Universe (SGU) is one of the most popular skeptical podcasts. The five members of the Rogue's Gallery have taught a lot of people about skeptical and scientific issues. One of them, filmmaker Jay Novella, has also begun producing comedic videos.

SGU Video Productions (www.youtube.com/user/TheSkepticsGuide/videos) is probably best known for a two-part parody of *Ghost Hunters*, highlighting their paranormal skills in drain cleaning and sump pump installation. The other videos satirize targets such as alien videos, ghost photos, and psychics who talk to the dead. The videos range from five to ten minutes each, and they are based on topics pulled from podcast episodes—not exactly a limiting format, as the *Skeptic's Guide* podcast is thorough and operates in a target-rich environment.

Qualia Soup

Some of the debates in which skeptics find themselves can be dry or esoteric. Those discussions can be a little inaccessible for people new to skepticism—not to mention non-skeptics unaccustomed to hearing scientific data at all.

A secular humanist and artist in the United Kingdom who goes by the name Qualia Soup has taken steps to bridge the gap between detail and accessibility. He creates animated breakdowns of common topics brought up with non-skeptics and theists—for example, being good without God, irreducible complexity, and the burden of proof.

The videos average about ten minutes each and are narrated in a clear and engaging manner. Those who have been involved in skepticism for a while will be familiar with most of the subject matter, but they are good primers for new skeptics and handy to show to non-skeptics.

Mr. Deity

Mr. Deity is a long-running series of comedic and satirical short films examining different aspects of religion. It stars Mr. Deity (the universe's creator, who has little understanding of human existence); his assistant, Larry; his son, Jesus; and Lucifer ("Lucy" for short), Mr. Deity's ex-girlfriend.

The *Mr. Deity* videos (www.youtube.com/user/misterdeity/videos) are seven to nine minutes long each and cover insoluble religious topics, such as the amount of evil allowed in the world, the meaning of prayer, and free will.

Mr. Deity is the creation of Brian Keith Dalton, who also stars, directs, and wrote the opening theme song. He decided to create a series of short films to express his views about God and religion. The series was a success, leading to a deal with Sony Pictures Entertainment to bring *Mr. Deity* to HBO. The deal eventually fell through, but *Mr. Deity* has continued on YouTube into its fifth season. Seasons three and four are available on DVD at http://mrdeity.com, as is a soundtrack CD.

Mr. Deity is an engaging, humorous series for anyone comfortable with questioning religious issues. The more devout may struggle with the issues raised or find the whole series blasphemous.

Christian Walters is a technical writer in Atlanta. He's been involved in skepticism for about eight years, and he currently leads the Atlanta Skeptics group. He's a contributor to the award-dodging podcasts *Ask a Canadian* and *The Death Panel*. He's a graduate of Auburn University and is eager to talk to you about college football. Walters's blog, which often includes topics about skeptical outreach, is at http://facetheperil.com.

This article touched on just a few popular YouTube channels. There are plenty of others with more being added all the time:

Media Skeptic (www.youtube.com/user/mediaskeptic): This new channel takes a critical look at the tricks and techniques used by the news media and by politicians to sway public opinion. Only a few videos so far but worth keeping an eye on.

Geologic Records (www.youtube.com/user/geologicrecords): Geologic Records is the home of noted skeptic and musician George Hrab. You will find music videos and performances of his skepticism-tinged songs and interviews.

Healthyaddict (www.youtube.com/user/healthyaddict): Healthyaddict is the online handle for Ashley Paramore, development director for the Secular Student Alliance (SSA). Her videos cover her current work with the SSA and her previous work as chair for Students for Freethought at The Ohio State University.

Sick Science (www.youtube.com/user/SteveSpanglerScience): Steve Spangler is a science writer and educator who has created short videos illustrating do-it-yourself science projects, including making drag-racing cups and light bulbs.

Symphony of Science (www.youtube.com/user/melodysheep): John Boswell takes talks from noted scientists and skeptics, adds a soundtrack, and auto-tunes them together into music videos.

Skepchick (www.youtube.com/user/rkwatson): Rebecca Watson is the founder of the Skepchick website and cohost of the popular *Skeptics' Guide to the Universe* podcast. Her videos have discussed topics such as homeopathy, then-presidential candidate Michele Bachmann's comments about the human papillomavirus vaccines, and so-called "chemtrails."

Confirmation Bias and Art

Samuel McNerney

By now, our overwhelming tendency to look for what confirms our beliefs and ignore what contradicts our beliefs is well documented. Psychologists refer to this as confirmation bias, and its ubiquity is observed in both academia and in our everyday lives: Republicans watch Fox while Democrats watch MSNBC; creationists see fossils as evidence of God, evolutionary biologists see fossils as evidence of evolution; doomsayers see signs of the end of the world, and the rest of us see just another day. Simply put, our ideologies and personal dogmas dictate our realities.

For the most part, confirmation bias has been studied by psychologists and discussed by science journalists in the context of decision-making or reasoning. Examples of this include Jonah Lehrer's *How We Decide*, Carol Tavris and Elliot Aronson's *Mistakes Were Made (But Not By Me)*, and the recent Hugo Mercier and Dan Sperber (2011) article that has garnered so much popularity. As more is written about confirmation bias and its effects, it is becoming clear that it is describing something much more than a mechanism that influences our everyday choices and rationality.

If we are defining confirmation bias as a tendency to favor information that confirms our previously held beliefs, it strikes me as ironic to think that it is almost exclusively discussed as a hindrance to knowledge and better decision-making, or as an aid to argumentation and persuasion as reinforced by Mercier and Sperber. With such a broad definition, I think it also explains our aesthetic judgments. That is, just as we only look for what confirms our scientific hypotheses and personal decisions, we likewise only listen to music and observe art that confirms our preconceived notions of good and bad aesthetics. Put differently, confirmation bias influences our aesthetic judgments just as it does any other judgment.

Let's observe music, a popular topic in the psychology world. One of the common themes to emerge from the literature is the importance of patterns, expectations, and resolutions. Many authors argue that enjoyable music establishes a known pattern, creates expectations, and resolves the expectations in a predictable way. As neuroscientist Daniel Levitin, author of *This Is Your Brain on Music*, explains, "as music unfolds, the brain constantly updates its estimates of when new beats will occur, and takes satisfaction in matching a mental beat with a real-in-the-world one." This is one reason we repeatedly listen to the same songs and bands; we know exactly what we are going to get and love it when they fulfill our preconceived expectations.

Our audio and visual systems are programmed to look for art that we like and to ignore art that we don't like.

In this light, the relationship between confirmation bias and music is clear. In the same way that we decide to watch Fox or MSNBC, we decide to listen to Lady Gaga or The Beatles. In either case, our brains are latching onto patterns and getting pleasure from accurately predicting what comes next. Here is the key: your brain doesn't "know" the difference between Glenn Beck and Paul McCartney, but it does know, and it does care, about

Picasso's non-feminine depiction of women, Manet's sharp depiction of the courtesan woman, and Warhol's commercial treatment of art stood in stark contrast to then-contemporary norms that dictated the qualifications of good art.

confirming each in the context of their work. McCartney sings the chorus to "She Loves You," while Beck reams Obama's latest political move. In other words, its predictions don't discriminate between different mediums; it just wants its expectations to be fulfilled. So ask yourself this: Is there really any difference between a Beatles concert and a Glenn Beck rally? Are people not just going to these events to have their opinions confirmed?

One way to answer this question is to see what happens when people don't hear what they expect. History has shown that this can get ugly. Some music performances defied expectations so dramatically that the audience resorted to rioting. Famous examples include performances of Béla Bartók's The Miraculous Mandarin, Steve Reich's Four Organs, and Igor Stravinsky's Rite of Spring. In each of these cases, the composers forced the audience to listen to exactly what they didn't want to hear. It would be like if a Democrat was forced to watch Fox or a Republican went to a Glenn Beck rally and heard him praise Obama. I am sure that both of these scenarios would provoke reactions similar to the ones that Stravinsky experienced.

The same is true with visual art. Consider Picasso's *les Demoiselles d'Avignon (The Young Ladies of Avignon)*, Manet's *Olympia*, or Warhol's *Campbell's Soup Cans*. Each of these works was highly controversial. In the cases of Picasso's non-feminine depiction of women, Manet's sharp depiction of the courtesan woman, and Warhol's commercial treatment of art, each stood in stark contrast to then-contemporary norms that dictated the qualifications of good art.

But whereas the critics argued that these paintings were violating some intrinsic art rule, psychologists tell us that the only thing objective about this art was that it made people's confirmation bias go haywire. Art doesn't have platonic standards; good art is form-breaking, and this is a big reason why all of the mentioned works went on to be classics.

Stravinsky would be credited with ushering new musical styles and techniques into the twentieth century; Picasso was praised for developing Cubism; and Manet perpetuated the Impressionist movement. This is not to say that good art has to break rules—there are plenty of conventionalists who made great art by reinforcing preconceptions—but it is to say that good art can break rules.

Unfortunately, our audio and visual systems are programmed to look for art that we like and to ignore art that we don't like. And this is what makes artistic innovation so difficult. But when we turn off our confirmation bias, we realize that watching or listening to something that doesn't fulfill our expectations can be ultimately rewarding. All groundbreaking artists are in on this well-kept secret: they know that in the end, it is just as enjoyable to experience something that violates an expectation, which is why they replaced the expected with the unexpected. In other words, they are the ones who saw through their confirmation bias.

Levitin explains this in regard to music: "Brains take delight when a skillful musician violates [an] expectation in an interesting way—a sort of musical joke that we're all in on. Music breathes, speeds up, and slows down just as the real world does, and our cerebellum finds pleasure in adjusting itself to stay synchronized."

Psychologists have nicely described the detriments of confirmation bias in the last few decades. Its power and in-

fluence is very clear now. But instead of thinking about it in regard to decision-making, let's remember that it equally influences our aesthetic judgments. As I said, the great artists were well aware of their audience's expectations; Picasso said that "every act of creation is first of all an act of destruction." But instead of reading quotes like these as idealistic aphorisms, let us take them as warnings that confirmation bias appears in art just as it does in everyday decision-making.

If we continue to think that confirmation bias only applies to the everyday, we may be shutting out the next Stravinsky. ■

Reference

Mercier, Hugo, and Dan Sperber. 2011. Why do humans reason? Arguments for an argumentative theory. *Behavioral and Brain Sciences* 34: 57–111.

Samuel McNerney graduated from Hamilton College with a bachelor's degree in philosophy. Now, however, he is exploring a career as a science journalist who writes about philosophy, psychology, and neuroscience. His blog, http://whywereason.com, tries to figure out how humans understand the world. This blog post was first published by *Scientific American* on July 17, 2011.

A Warm Twist on a 'Cold Reading'

A Conversation with Damon Martin

Mediums have been around for millennia. I can't think of another profession where research on the subject yields results like "See also: confidence trick." For as long as there have been people claiming to be mediums, there have been people like composer **Damon Martin** to call them out. His latest Traumatosis album, *Cold Reading*, takes the listener on a journey that details the deceptive techniques used by people who claim an ability to talk with the dead.

This subject offends Martin on many levels, and he took a very thoughtful approach to getting his message across. The listener knows that this is not an ordinary concept album from the very first track, "Secrets of the Spirit Cabinet." Themes from that introduction can be found throughout the album. Whispers, various sound effects, and multi-layered instrumentation set the stage for what is to come. The album, dark and moody, spills forth songs of loss, hope, and betrayal at the hands of someone claiming to be something he's not.

The eventual outcome seen in track nine has the subject of the album expecting his payment for sharing his God-given gifts with the unwitting customer who only wanted a bridge to lost family members. The final song, "Six People," brings it home with an acoustic guitar and rousing vocals. Martin's hard rock past is evident in many of the songs, but he takes that foundation to a whole new level. *Cold Reading* is a concept album intended to be heard in a single sitting, not piecemeal during a commute. Each song builds upon the last, and multiple listenings reveal new layers of sound and music. Skeptic and musician **Matthew A. Kacar Jr.** interviewed Martin about his new project.

The full interview is available at http://artistconnectionpodcast.libsyn.com/webpage/episode-086-damon-martin.

Where are you from, and how did you get to where you are now?

I'm from Scotland, North of Scotland, Aberdeenshire. I've always been into music. I was given a keyboard when I was about four years old by my mother. I used to sing for just hours and hours. I was just playing around with my sound and teaching myself chords and just doing it my own way. I had about three of these keyboards. They were just little cheap things that my mom bought me because I kept clogging up the speakers with pancakes. I was a bit of a chubby child, I think. I have no idea what I was doing. I was just going by feel which is kind of what I still do. My studio isn't great. It's kind of all about just how it sounds and how it makes you feel.

Thinking about *Cold Reading*, was there a pivotal moment in your life where you started to question things? Are you skeptical by nature about certain things? Do you like to know how things work?

Yeah. I think really analytically, especially about myself. And so, I'm a very self-reflective type but yeah, I want to know the truth all the time. Except for the weather—I like to be surprised with the weather; everything else I want to know. I'm an atheist. I think that I've always been atheist. Obviously in Britain, a Christian country, we have to have prayers in our schools. Sometimes I would go home and believe in God and sometimes I would go home and I wouldn't. There's a lot

to find out about all this stuff. The more I knew, the more angry I would get when people would abuse others with supernatural acquaintances and mediums. That sickens me, absolutely just turns me off completely. I think it's the most corrupt, most hideous con that anybody can do. It's bad enough to be conning people in any way, but you have people who have just lost their children, and then you have mediums pretending to *be* their children and pretending to talk to their children—that absolutely makes me want to vomit.

How do they stay in business? How is that still allowed?

A lot of these TV psychics are really litigious and take anybody to court who criticizes them. That's why I've never named a name because it's so dangerous. I don't want to get my life ruined by litigation. If you said so and so is not psychic, they can take you to court and often successfully sue you.

It feels like it is harder to be a skeptic because it's a lot easier to just say "I have faith." At the end of the day, the more you question either psychics or mediums or even a priest, it's back on you. On your track "As the Meter Ticks," that's what is happening, "I'm a vessel. Don't question me." What do you say at one point? "Don't interrupt; I may never get this vision back."

Yes, that's it. Yeah, that's exactly it. I decided to write that track because it starts off with kind of this arrogant, "I don't see the world the way you do." There's kind of a superiority complex which is, I think, why most of them get into it. It gets them a position of power and a position of that charisma and, you know, glory. I mean they get to be a rock star. We've only done one performance of this album and it was a local one. It was mainly friends and family and stuff and it was a tremendous one.

You played it at the Tunnels (a music venue in Aberdeen). It sounds like the perfect place to perform *Cold Reading*.

Yeah, it was good fun. I don't like to be limited and I really like to mess with the audience as well. It's a horrifying show sometimes. I did a magic routine. I thought that would be quite appropriate where I stick this big nine-inch needle in my arm and that went down really well. It was really uncomfortable. I made the audience as uncomfortable as I possibly could, for them, not for me. It was great. Yeah, I think I stopped in silence for a whole minute before I even began and people just watched me and I didn't say a word. But at the end, it was amazing. Then, it was amazing praise. It was just heartwarming. It kind of made everything feel so worthwhile and then fun, praise that I don't deserve. It was a wonderful evening.

I'm sure. So what's next for you?

There was a lot leading up to this performance we just did and so kind of taking it easy. I've got a lot of projects. I'm composing a piano concerto just now which is using the same kind of artistic approach that I use with all my stuff. I'm trying to put as much meaning into things as I really possibly can and give it my all, but the concerto I'm writing is also about a novel that I'm simultaneously writing. So, I'm busy with that. It's about shell shock during the war. There's a soldier who's recovering from shell shock and he interacts with the other people that are affected by it worse than he is. I'm really quite drawn to people that have mental illness. It's always comforting being around people like that I think. I don't know why. It makes me feel more comfortable. I think I've always kind of seen myself as being a bit eccentric and a bit out there, so maybe it's kind of comforting being around people with that kind of sense.

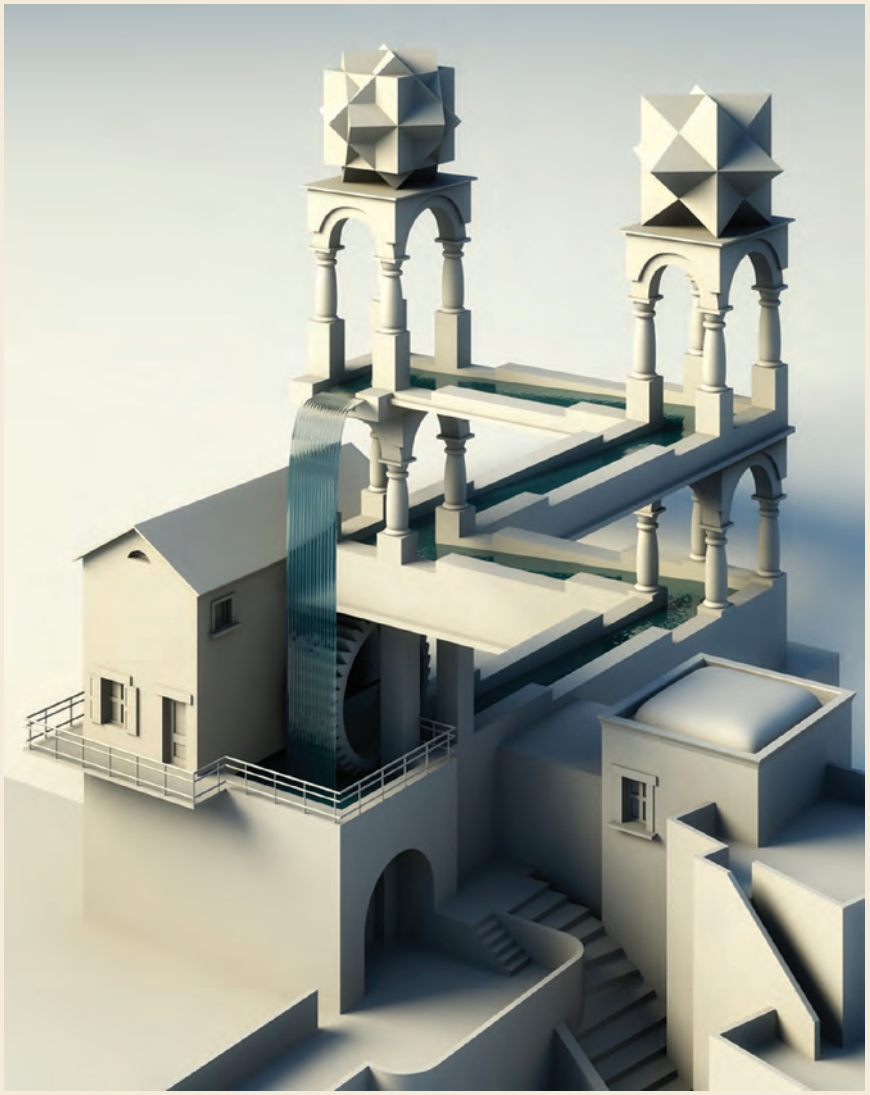
You can learn more about Damon Martin at www.traumatosis.com.

Matthew A. Kacar Jr. is the producer and host of the *Artist Connection Podcast*. He conducts long-form audio interviews with artists from all walks of life. He can be found at www.artistconnectionpodcast.com.

"It's bad enough to be conning people in any way, but you have people who have just lost their children, and then you have mediums pretending to be their children and pretending to talk to their children—that absolutely makes me want to vomit."

Art, Mysteries, and Context

Benjamin Radford



In my books and workshops on scientific paranormal investigation, I discuss how best to conceptualize a mystery: basically, an event out of context. A live dolphin lying on a Manhattan sidewalk is a mystery; that same dolphin in a tank at an aquarium is not. Ten thousand gallons of boiling caramel inside a Boeing 747 airplane is a mystery; that same caramel in a candy factory is not. Every mystery or strange event has some surrounding circumstance or context that will render it non-mysterious.

The investigator's job is to find a scientifically plausible context in which the mysterious phenomenon makes sense. Often a mystery is created when the facts are merely lacking a context, but a mystery can also be created when the facts are put into the wrong context.[1] Thus, one of the chief duties in examining "unexplained" claims is understanding the (environmental, social, cultural, psychological, etc.) context of miracle reports, UFO photographs, and so on.

I was reminded of this during a recent visit to the Walker Art Center in Minneapolis, Minnesota. One featured exhibit, *Lifelike*, "invites close examination of artworks—startlingly realistic, often playful, and sometimes surreal—based on commonplace objects and situations." The show featured ninety works from fifty artists, including Alex Hay's *Paper Bag* (1968), an exact replica of an ordinary paper bag (except that it's six feet tall and made of fiberglass); Vija Celmins's *Freeway* (1966), a photorealistic oil painting one would swear is a photograph at first glance; Daniel Douke's *Ace* (1979), a seemingly ordinary mailing box complete with packaging tape and scuffs yet mounted chest-high on a wall and made of acrylic and Masonite; and Ron Mueck's *Crouching Boy in Mirror* (1999–2000), a stunningly realistic life-size sculpture of a boy looking at himself in a mirror. In this world, scale and apparent utility cannot be trusted: pocket combs are as large as filing cabinets and working elevators are scaled down to the size of a deck of cards.

This is a fertile playground for artists, illusionists, and skeptics: Things that seem real often are not, and things that don't seem real sometimes are. Everything must be questioned: every basic assumption and premise, even the ordinary—*especially* the ordinary. The same is true for investigations and skepticism in general.

One of the most interesting pieces at *Lifelike* was also the most mundane (and for the same reason). It was Swiss artist Ugo Rondinone's *still.life (cardboard leaning on the wall)* (2009). The piece, about four feet square, is a slightly banged-up piece of cardboard, with all the familiar patterns and creases we'd expect to find on any ordinary piece of cardboard sitting next to a city dumpster. It is, in fact, an incredibly detailed bronze sculpture (see Figure 1).

Which brings me back to the issue of context. A photograph (indeed, even a close visual inspection) of the piece does not betray its true nature. Without touching or weighing it, we have no way of de-

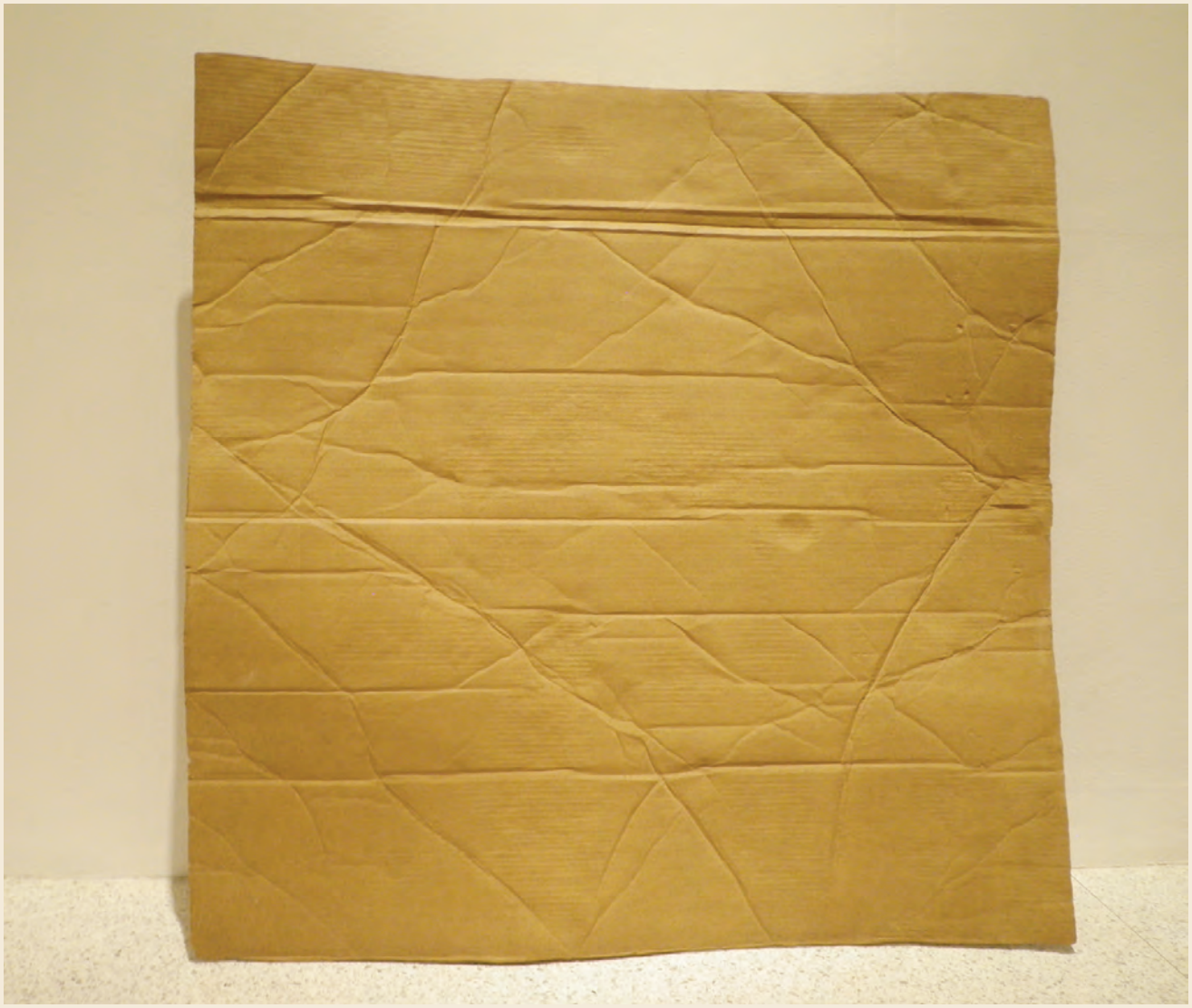


Figure 1. This seemingly ordinary piece of cardboard is actually a bronze sculpture.

ducing anything about it. The same is often true for photographs of Bigfoot, UFOs, ghosts, etc. This is where context informs the investigation: If I photographed *still.life* in an alleyway, there would be no reason to think or assume it was anything other than what it seems to be.[2] Rondinone's sculpture, seen or photographed, does exactly what it is intended to do: fool the viewer. (Even when photographed against a gallery wall, the context doesn't give the viewer much of a clue to its true nature.)

But what if there was an additional piece of important information that gave the mystery (or, rather, apparent nonmystery) context? If I showed someone a photograph of *still.life* and mentioned that the photo was taken at a famous art museum, that changes everything, providing both a reason to doubt its apparent nature and context for solving the mystery. The information doesn't completely explain it—after all, it could simply be a piece of discarded cardboard leaning against a wall in the receiving dock because it's too big to fit in the trash. But it provides a clue, an important first step in solving mysteries.

Art means many things to many people—and it can even include lessons in skepticism from a piece of cardboard that's not really a piece of cardboard. ■

Notes

1. For example, if a woman is thinking about her friend who then suddenly calls, that context might make them think they share a psychic link, whereas the correct—and less mysterious—context is that the incident was likely an illusion created by confirmation bias.

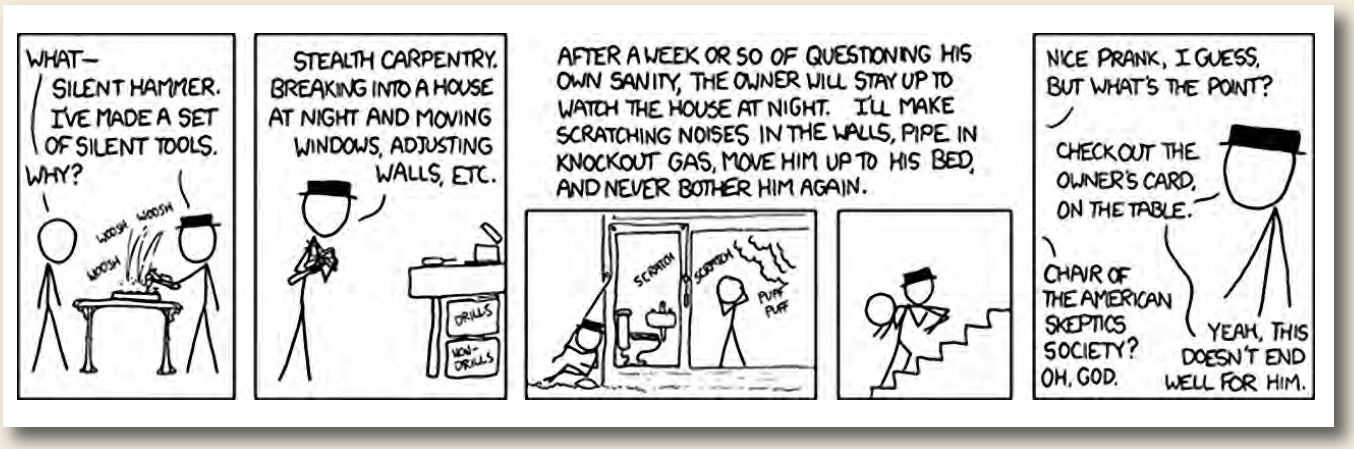
2. Note that this is not a fallacy but instead a completely reasonable and logical assumption; in fact, since the piece is unique in the world—there are no other bronze sculptures that size that look exactly like an ordinary creased cardboard panel—one would be completely justified using Occam's razor in assuming it is precisely what it appears to be.

Benjamin Radford is deputy editor of the SKEPTICAL INQUIRER, a CSI research fellow, and author or coauthor of seven books, including *Scientific Paranormal Investigation: How to Solve Unexplained Mysteries*. His favorite artists include Ron Mueck, Rene Magritte, Henry Fuseli, James Tissot, Art Suydam, and Michael Parkes.

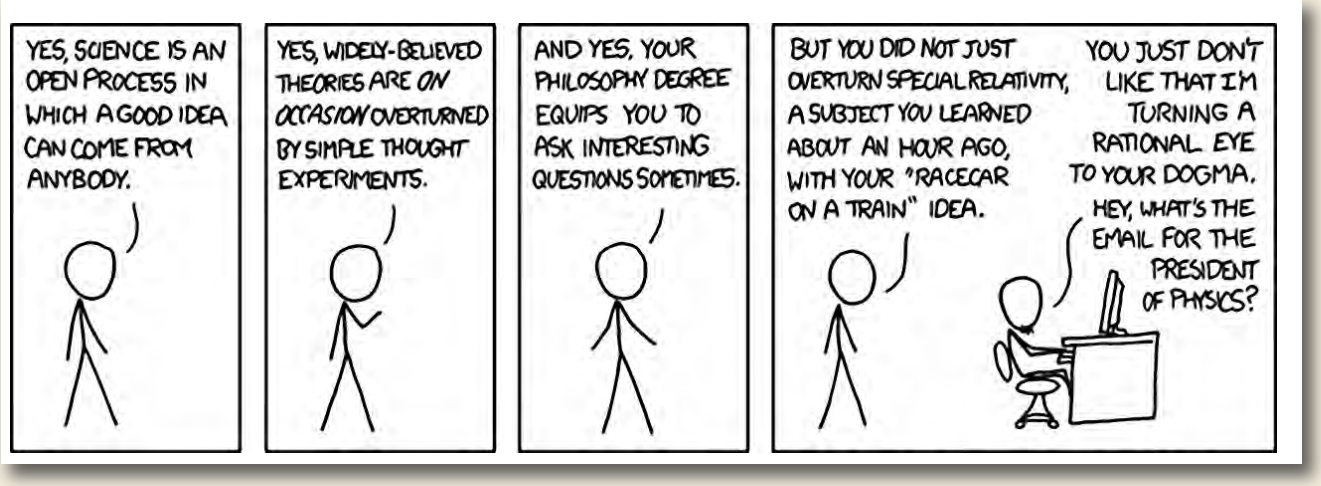
XKCD: A Perfect Marriage of Snark and Skepticism

Randall Munroe is a twenty-seven-year-old former NASA roboticist, but he is better known to his many fans around the web as the creator of the wonderfully snarky and often overtly skeptical webcomic *xkcd*—named after Monroe's old Internet handle and purposely meant to have no meaning or pronunciation as a word in and of itself. Munroe has subtitled *xkcd* "a webcomic of romance, sarcasm, math, and language," and he often uses that sarcasm to skewer some of skepticism's favorite targets, such as homeopathy, psychics, alternative medicine, pseudoskepticism, and the 2012 doomsday prophecy in his chosen medium of stick figures. *XKCD* has been lauded by prominent skeptics such as Phil Plait, who often posts links to skeptical *xkcd* comics on his blog, *Bad Astronomy*. If you aren't already an *xkcd* fan, chances are you'll become one fast after reading some of our favorites among the comic's more skeptical entries. *XKCD* is updated every Monday, Wednesday, and Friday at xkcd.com. ■

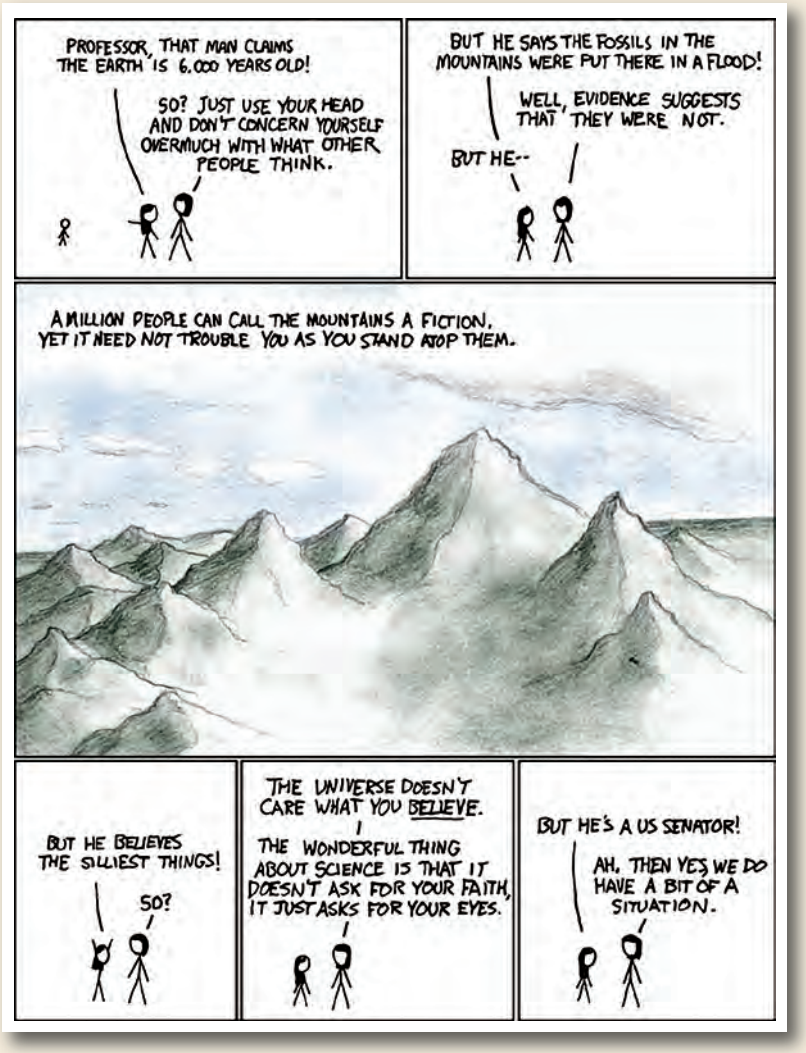
"Silent Hammer"


WHAT—
SILENT HAMMER. I'VE MADE A SET OF SILENT TOOLS.
WHY?
WOOSH
WOOSH
WOOSH
STEALTH CARPENTRY. BREAKING INTO A HOUSE AT NIGHT AND MOVING WINDOWS, ADJUSTING WALLS, ETC.
DRILLS
NON-DRILLS
AFTER A WEEK OR SO OF QUESTIONING HIS OWN SANITY, THE OWNER WILL STAY UP TO WATCH THE HOUSE AT NIGHT. I'LL MAKE SCRATCHING NOISES IN THE WALLS, PIPE IN KNOCKOUT GAS, MOVE HIM UP TO HIS BED, AND NEVER BOTHER HIM AGAIN.
SCRATCH
SCRATCH
PUFF PUFF
NICE PRANK, I GUESS. BUT WHAT'S THE POINT?
CHECK OUT THE OWNER'S CARD, ON THE TABLE.
CHAIR OF THE AMERICAN SKEPTICS SOCIETY? OH, GOD.
YEAH, THIS DOESN'T END WELL FOR HIM.

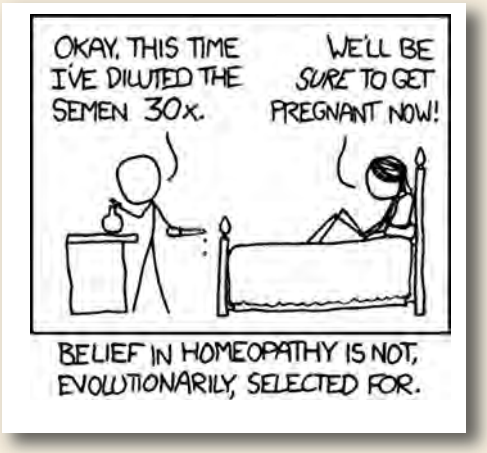
"Revolutionary"


YES, SCIENCE IS AN OPEN PROCESS IN WHICH A GOOD IDEA CAN COME FROM ANYBODY.
YES, WIDELY-BELIEVED THEORIES ARE *ON OCCASION* OVERTURNED BY SIMPLE THOUGHT EXPERIMENTS.
AND YES, YOUR PHILOSOPHY DEGREE EQUIPS YOU TO ASK INTERESTING QUESTIONS SOMETIMES.
BUT YOU DID NOT JUST OVERTURN SPECIAL RELATIVITY, A SUBJECT YOU LEARNED ABOUT AN HOUR AGO, WITH YOUR "RACECAR ON A TRAIN" IDEA.
YOU JUST DON'T LIKE THAT I'M TURNING A RATIONAL EYE TO YOUR DOGMA.
HEY, WHAT'S THE EMAIL FOR THE PRESIDENT OF PHYSICS?

"Beliefs"


PROFESSOR, THAT MAN CLAIMS THE EARTH IS 6,000 YEARS OLD!
SO? JUST USE YOUR HEAD AND DON'T CONCERN YOURSELF OVERMUCH WITH WHAT OTHER PEOPLE THINK.
BUT HE SAYS THE FOSSILS IN THE MOUNTAINS WERE PUT THERE IN A FLOOD!
WELL, EVIDENCE SUGGESTS THAT THEY WERE NOT.
BUT HE--
A MILLION PEOPLE CAN CALL THE MOUNTAINS A FICTION, YET IT NEED NOT TROUBLE YOU AS YOU STAND ATOP THEM.
BUT HE BELIEVES THE SILLIEST THINGS!
SO?
THE UNIVERSE DOESN'T CARE WHAT YOU BELIEVE.
THE WONDERFUL THING ABOUT SCIENCE IS THAT IT DOESN'T ASK FOR YOUR FAITH, IT JUST ASKS FOR YOUR EYES.
BUT HE'S A US SENATOR!
AH, THEN YES, WE DO HAVE A BIT OF A SITUATION.

"Dilution"

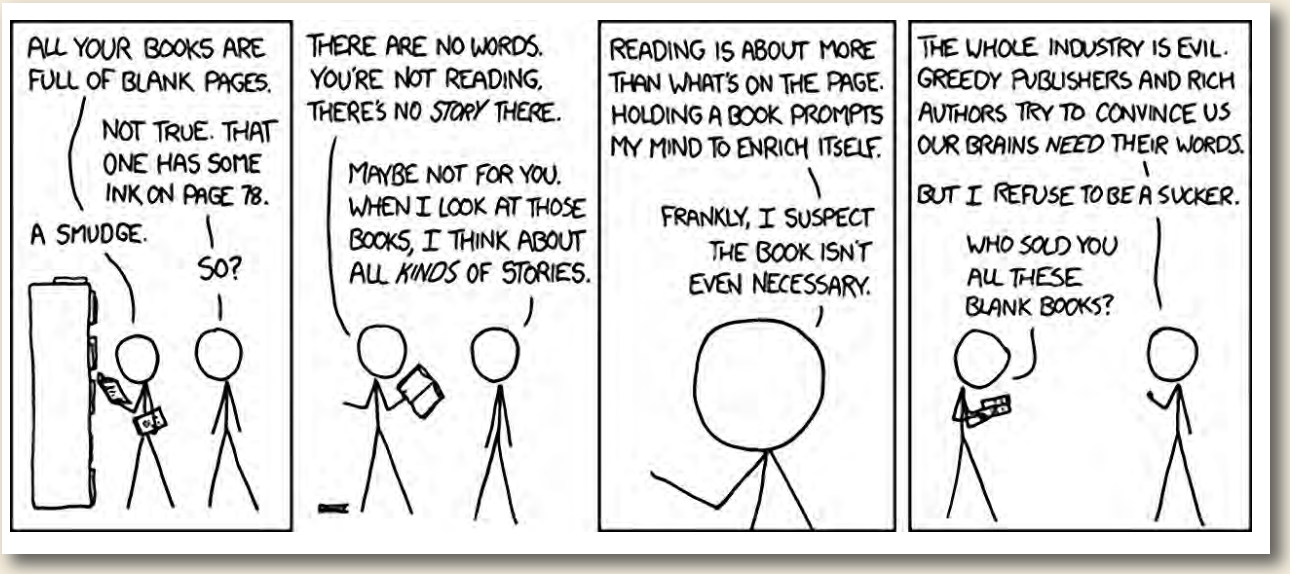

OKAY, THIS TIME I'VE DILUTED THE SEMEN 30x.
WE'LL BE SURE TO GET PREGNANT NOW!
BELIEF IN HOMEOPATHY IS NOT, EVOLUTIONARILY, SELECTED FOR.

"The Economic Argument"

CRAZY PHENOMENON	IF IT WORKED, COMPANIES WOULD BE USING IT TO MAKE A KILLING IN...	ARE THEY?
REMOTE VIEWING	OIL PROSPECTING	
DOWSING		
AURAS	HEALTH CARE COST REDUCTION	
HOMEOPATHY		
REMOTE PRAYER		
ASTROLOGY	FINANCIAL/BUSINESS PLANNING	
TAROT		
CRYSTAL ENERGY	REGULAR ENERGY	
CURSES, HEXES	THE MILITARY	
RELATIVITY	GPS DEVICES	✓
QUANTUM ELECTRODYNAMICS	SEMICONDUCTOR CIRCUIT DESIGN	✓

EVENTUALLY, ARGUING THAT THESE THINGS WORK MEANS ARGUING THAT MODERN CAPITALISM ISN'T *THAT* RUTHLESSLY PROFIT-FOCUSED.

"Alternative Literature"


ALL YOUR BOOKS ARE FULL OF BLANK PAGES.
NOT TRUE. THAT ONE HAS SOME INK ON PAGE 78.
A SMUDGE.
SO?
THERE ARE NO WORDS. YOU'RE NOT READING. THERE'S NO *STORY* THERE.
MAYBE NOT FOR YOU. WHEN I LOOK AT THOSE BOOKS, I THINK ABOUT ALL *KINDS* OF STORIES.
READING IS ABOUT MORE THAN WHAT'S ON THE PAGE. HOLDING A BOOK PROMPTS MY MIND TO ENRICH ITSELF.
FRANKLY, I SUSPECT THE BOOK ISN'T EVEN NECESSARY.
THE WHOLE INDUSTRY IS EVIL. GREEDY PUBLISHERS AND RICH AUTHORS TRY TO CONVINCE US OUR BRAINS *NEED* THEIR WORDS.
BUT I REFUSE TO BE A SUCKER.
WHO SOLD YOU ALL THESE BLANK BOOKS?

Surly-Ramic's Amy Davis Roth

Amy Davis Roth (a.k.a. Surly Amy) is a fourth-generation visual artist who resides in the heart of Hollywood, California. She runs a handmade art business called Surly-Ramics where she creates hand-formed and hand-painted ceramic jewelry. Her "Smart Jewelry" line is inspired by science and skepticism. She often uses her jewelry to raise money for charities and to raise awareness of skeptic, atheist, and feminist issues. Amy is a longtime contributor to the widely popular blog *Skepchick* where she writes, among other things, a skeptical advice column called "Ask Surly Amy." She is managing editor for *Skepchick*'s sister site that deals with the intersections among art, science, and skepticism called Mad Art Lab.com.

In Amy's words:

I first began working in clay by helping my mother, Charlene. At the time, my mother had a small home business that made porcelain awards for horse shows. I was very influenced by her work even though I probably didn't know it early on. Her highly detailed work has without a doubt influenced my artwork today.

As a young woman I opened an art gallery in North Hollywood, California. During the time I had the gallery I began making and selling small ceramic necklaces. Unfortunately, I had no idea how to run an art gallery and after a short

During this educational period in my life I was able to find something that my artwork had been lacking: a purpose and a message.

stint and an unfortunate series of events, I ended up literally bankrupt. I had no car and no place to live. I had failed.

I got very depressed and I stopped making art.

A year or so passed by.

Then, I got a job as a waitress to try to start saving money to start my life over. I remembered how much I enjoyed making the ceramic jewelry in my mother's studio, so I started making necklaces and wearing them at work. I had moved into a tiny one-room apartment, and I didn't have any space to create. The necklaces were small and I could make them in my mother's backyard ceramic studio. It was perfect. It was during the same time period that I started learning about science, and a few months later I found out about the skeptical community. During this educational period in my life I was able to find something that my artwork had been lacking: a purpose and a message.

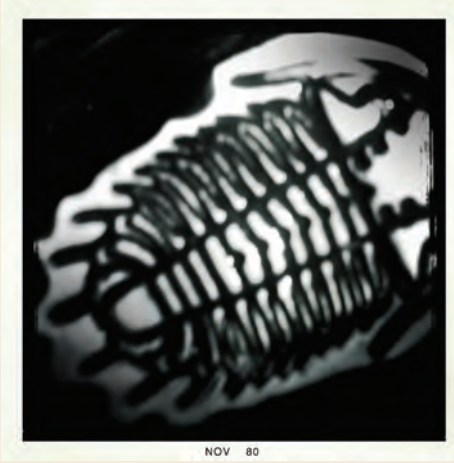
People fell in love with the jewelry. I had people buy them right off my neck! I literally couldn't make them fast enough. Surly-Ramics was born! Within a few months I had started a new business, one that championed skepticism and critical thinking, and I no longer needed to wait tables.

I now work as an artist full time. I design jewelry that advocates education and science and that celebrates the brave, emerging society of freethinkers that I find myself a part of. It's nice to be able to carry around a small piece of art that represents skepticism and the rational ideals that are helping to make this world a better place. I try to give back as much as I can to the community that has given me wisdom and so much inspiration, so I use my art to fundraise for many secular organizations and various grant programs.

You can see more of my ceramic jewelry designs at surlyramics.com.

Email me at info@surlyramics.com.

Follow @SurlyAmy on twitter. ■



All photographs by Amy Roth.

Skeptic Trumps: A Satirical Skeptic Card Game

Tim Farley

The skeptical community's growth has led to many unanticipated creative projects, particularly online. One such project is Skeptic Top Trumps, a virtual deck of playing cards featuring caricatures of popular skeptics.

It is the creation of Crispian Jago, a computer industry consultant in Reading, England. Jago started a blog in 2008, on which he began writing his "serious thoughts" about skepticism. "Unsurprisingly, nobody really ever read my blog," he recalls. When writer Simon Singh was sued for libel by the British Chiropractic Association, Jago decided to respond with satire. He wrote a "bogus transcript" of one of the court hearings mirroring the witch trial scene in the film *Monty Python and the Holy Grail*. It quickly became one of the most popular posts on his blog.

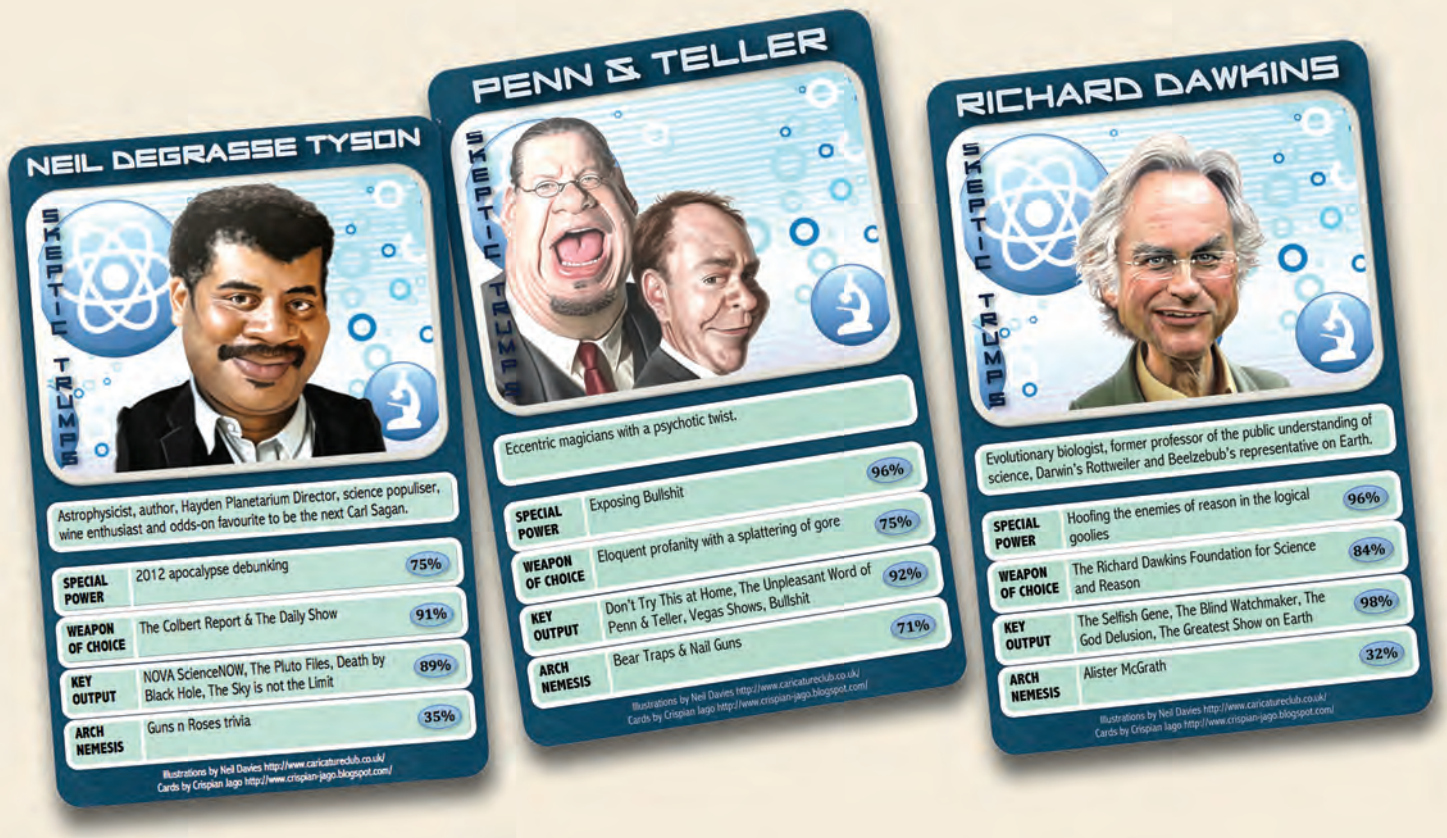
As a result he thought that "perhaps satirical skepticism might be an idea worth exploring." Comments on a line in another Python-inspired post ("and your Dawkins smells of reason") inspired Jago to create an image of packaging for a fictional fragrance called *Reason by Richard Dawkins*. After this also proved very popular, "I looked around for more iconic images that I could bastardize into my own agenda."

Jago found that amusing images consistently reached wide audiences. He calls them "a useful weapon in the skeptic's arsenal." Info-graphics and other visual parodies have become staples of his blog; one popular post is a catalog of pseudosciences and mystical beliefs called the Periodic Table of Irrational Nonsense. Another depicts the history of science as a subway map.

Jago's foray into card decks was inspired by the previous efforts of others. In 2008 stand-up comedian Christina Martin saw a newspaper headline "Gay Rights Don't Trump Christian Rights." She recounted her reaction in a later article: "How stupid, I thought; as if people's rights and beliefs can be reduced to a game of Top Trumps."

Top Trumps is a popular series of card games for children in the United Kingdom that began in the 1970s. Each deck has a theme, such as World Records, Aircraft, or Military Vehicles. Each card represents one person or item in the category and contains a list of numerical statistics on that subject. Game play is akin to the card game War, comparing one of the statistics chosen by the player. The game ends when one player has collected all the cards.

In response to that newspaper headline Martin wrote a set of humorous "God Trumps" featuring the gods of various religions with illustrations by Martin Rowson. They were published in *New Humanist* starting in the fall of 2008 and quickly became the most-read article in the history of the magazine's website.


NEIL DEGRASSE TYSON
SKEPTIC TRUMPS
Astrophysicist, author, Hayden Planetarium Director, science populiser, wine enthusiast and odds-on favourite to be the next Carl Sagan.
SPECIAL POWER 2012 apocalypse debunking 75%
WEAPON OF CHOICE The Colbert Report & The Daily Show 91%
KEY OUTPUT NOVA ScienceNOW, The Pluto Files, Death by Black Hole, The Sky is not the Limit 89%
ARCH NEMESIS Guns n Roses trivia 35%
Illustrations by Neil Davies http://www.caricatureclub.co.uk/
Cards by Crispian Iago http://www.crispian-jago.blogspot.com/
PENN & TELLER
SKEPTIC TRUMPS
Eccentric magicians with a psychotic twist.
SPECIAL POWER Exposing Bullshit 96%
WEAPON OF CHOICE Eloquent profanity with a splattering of gore 75%
KEY OUTPUT Don't Try This at Home, The Unpleasant Word of Penn & Teller, Vegas Shows, Bullshit 92%
ARCH NEMESIS Bear Traps & Nail Guns 71%
Illustrations by Neil Davies http://www.caricatureclub.co.uk/
Cards by Crispian Iago http://www.crispian-jago.blogspot.com/
RICHARD DAWKINS
SKEPTIC TRUMPS
Evolutionary biologist, former professor of the public understanding of science, Darwin's Rottweiler and Beelzebub's representative on Earth.
SPECIAL POWER Hoofing the enemies of reason in the logical goolies 96%
WEAPON OF CHOICE The Richard Dawkins Foundation for Science and Reason 84%
KEY OUTPUT The Selfish Gene, The Blind Watchmaker, The God Delusion, The Greatest Show on Earth 98%
ARCH NEMESIS Alister McGrath 32%
Illustrations by Neil Davies http://www.caricatureclub.co.uk/
Cards by Crispian Iago http://www.crispian-jago.blogspot.com/

Jago noticed their success and soon created his own card decks including Skeptic Tarot Cards and Celebrity Quack Trumps—the latter featuring celebrities along with their favorite pseudoscience. After it appeared, British skeptic David Allen Green suggested a deck of skeptic trumps to Jago.

Although proficient with tools like Photoshop, Jago is not an artist and didn't want to use ordinary photos for the cards. So he turned to automatic avatar creator tools, choosing one in the style of the animated TV program *The Simpsons*. The result was a set of cartoon characters he called Simpsons Top Trumps: Skeptic Edition.

Consistent with the satirical nature of his blog, the cards include cutting remarks and humor. "As I am in awe of many of the subjects, I didn't want the cards to be too sycophantic," he said, adding that "as skeptics we too are not immune [to] critical analysis and ridicule."

The 52 *Simpsons* cards were very popular. Several skeptics adopted their cards as their online avatars. Jago received requests to produce the cards as a physical deck, but he was wary that Fox Broadcasting, protective of their trademarks, would take a dim view of such an endeavor. Taking the cards further would require entirely new artwork.

After Jago used the Pope in a parody of *The Cat in the Hat*, he heard from artist Neil Davies, who offered his assistance on future projects. Seeing Davies's work online, Jago knew his caricatures would be perfect for Skeptic Trumps. Davies agreed to do the artwork for free in exchange for promotion of his work. Since then, Davies's art has been featured on the cover of the U.K. magazine *The Skeptic*.

Skeptic Trumps was re-launched in April 2010. The first card, fittingly enough, was Simon Singh. The new deck was just as popular as the previous one, with skeptics taking it as an honor to be depicted, "even though I insult them," Jago notes. The popularity was such that other skeptics went to considerable effort to create a card for Jago himself. They secretly commissioned the artwork and surprised him with the card at The Amazing Meeting in London in 2010.

The deck has been updated several times, and currently numbers seventy-eight skeptics. When asked about his choice of subjects, Jago admitted that there are still a few he would like to do if Davies has time: "We haven't done Joe Nickell yet, which is totally outrageous." All are available free online, but they are still not available as physical cards. ■

KAREN STOLLZNOW
SKEPTIC TRUMPS
Author, Academic, Paranormal Investigator, Director of the San Francisco Bay Area Skeptics, Cunning Linguist and Skepbitch.
SPECIAL POWER
Persuasive Demagogue
75%
WEAPON OF CHOICE
Bad Language & The Naked Skeptic column for the Committee for Skeptical Inquiry
78%
KEY OUTPUT
Hosting the Point Of Inquiry and Monster Talk podcasts
81%
ARCH NEMESIS
Frank Sumption and his knackered radio
45%
Illustrations by Neil Davies http://www.caricatureclub.co.uk/
Cards by Crispian Jago http://www.crispian-jago.blogspot.com/
JAMES RANDI
SKEPTIC TRUMPS
Amazing.
SPECIAL POWER
The James Randi Educational Foundation
98%
WEAPON OF CHOICE
The Million-Dollar Challenge
95%
KEY OUTPUT
The Magic of Uri Geller, The Faith Healers, James Randi: Psychic Investigator, Flim-Flam, Conjuring
92%
ARCH NEMESIS
Woo-Woo
85%
Illustrations by Neil Davies http://www.caricatureclub.co.uk/
Cards by Crispian Jago http://www.crispian-jago.blogspot.com/
KYLIE STURGESS
SKEPTIC TRUMPS
Researcher, writer, blogger, interviewer, ballroom dancer, podcaster, juggler, co-host of the 2010 Atheist convention and serial tweeter.
SPECIAL POWER
Teaching critical thinking
83%
WEAPON OF CHOICE
Statistical analysis of paranormal and superstitious beliefs in women
89%
KEY OUTPUT
Host of the Token Skeptic podcast, reporter for the Skeptic Zone and The Podblack Cat blog
71%
ARCH NEMESIS
Scams, frauds and hysterias that challenge progress in science and culture.
39%
Illustrations by Neil Davies http://www.caricatureclub.co.uk/
Cards by Crispian Jago http://www.crispian-jago.blogspot.com/

Tim Farley is creator of whatstheharm.net and a research fellow for the James Randi Educational Foundation.

In the Key of Type
A Conversation with **Marian Call**

Singer-songwriter **Marian Call** lives in Anchorage, Alaska, but has a huge following around the world. Her complex harmonies and witty lyrics include references to science fiction shows like *Firefly* and *Battlestar Galactica* and to being a geek (even if it's not always going to be chic). Her latest work is *Something Fierce*—a fan-funded double album. Volume I is called "Good Luck With That" and volume II is "From Alaska." Art and skepticism do complement each other wonderfully in her work, but Call has slightly a different perspective: "In the end, I feel I'm firmly on the skeptic side, I believe. But I don't see picking a side as my role as an artist. I see communication as my role." **Kylie Sturgess** interviewed Call about her music and where skepticism harmonizes with art.

The first song that I ever heard from you was a live performance. I was at Dragon*Con and suddenly there was this person in the middle of the Parsec Awards performing on a typewriter. The song was "I'll Still Be a Geek After No One Thinks It's Chic," a.k.a. "The Nerd Anthem." I noticed you were hanging out with Phil Plait, who many skeptical people know—so obviously, geek cred is well and truly established. Are you a skeptic as well?

Not enough of one, I think, to align myself too firmly? There are a couple of points on which I don't feel that I fully belong, but I also tend not to align myself to groups in general. I would rather be very open to interpretation, and I'd rather keep my lines of communication open with all sorts of people, including groups who can't tolerate each other.

It's kind of funny that I love Phil dearly, and I love the skeptics' organization. And I've played a lot of shows with and for skeptics, and I identify pretty strongly with them. But when it comes to being a card-carrying member? I also have a very large group of very conservative, say, young-Earth Christians, who also come to my shows and pagans, and Buddhists, and people from all different sorts of religious and political backgrounds. I actually really like that, and I would like to encourage more of it. I see my space as an artist, as creating a space where these people who generally don't dialogue very well, are compelled to like the same thing and be forced to talk cordially to one another in real space.

I think that that is a vanishing experience, now, where it's much, much easier to select our company so that we only hang out with people who agree with us.

As far as my personal views, I would definitely fall on the skeptic side. But I try not to align myself with any groups, because that makes it easier for me to reach people who object to one another, you know what I mean? I see myself as a peacemaker in this universe, and as a dialogue creator. If I were ever to try and do something good for humanity, it would probably have to do with getting people who don't like each other to talk together in a cordial fashion and to understand one another.

That's one of the things I enjoy finding out about skeptics, that there's a tremendous scope, and there needs to be a tremendous scope: different experiences, and different interactions. That's what makes it so fascinating.

Absolutely. It's a continuum, rather than an "in or out" situation. At least, I should hope!

How would you describe the differences between your albums? Some of them have a kind of a theme, and then it sort of evolves from there, doesn't it?

It does. The albums are quite different and the way that you came to the music is pretty common. A lot of people came to it that way. First they found *Got to Fly*, usually through some sort of geek or skeptic connection, or a fandom connection. Then found the other music, *Vanilla* and *Songs of the Month*, and then came to, hopefully, *Something Fierce*, the new one.

Got to Fly was a special piece, because it was a commission to be about *Firefly* and *Battlestar Galactica*. A company that liked my geek-themed music that I'd already published came to me and said, "What would happen if you were licensed to release singing about these things, and you wrote a whole album for us?" I said, "Oh. OK, well here goes!"

Afterwards, a lot of people became fans because of the fandom, little bits and pieces. I'm hopeful that a lot of them have stayed fans through the other music, which is less. . . . It's all geeky, is the thing. It's all nerdy stuff, because I am a nerd and that shows through no matter what's happening, and the language, and definitely a lot of music nerd stuff in there. Songs about unexpected topics, I think, that geeks tend to prefer. Others are about, like "Dear Mr. Darcy," a type of love and a type of relationships that is very peculiar to overthinking, shy, nerdy people, of which I am one.

I've noticed quite a few literary references throughout: Shakespeare, Neruda, T. S. Eliot, Ogden Nash—were you always interested in literature when you were starting as a musician? Has this been a passion of yours as well as the kind of nerdy technological side and the science fiction side?

Oh, yes. I would say the literature comes long before. When I was a little kid, I always had a book under the desk. It was usually a classic. I had this love affair all through school with Dickens and Hugo, Neruda. I read a lot of Neruda translation; "The Love Song of J. Alfred Prufrock" by T. S. Elliot is one of my favorite pieces of work ever, ever, ever. Lots of Shakespeare. I remember getting into trouble in sixth grade—I was reading Shakespeare under the desk during our spelling tests. I remember feeling a vague sense of injustice about that!

So how may instruments do you play? I was looking at the liner notes and noticing quite a few. I was like, "Oh! She does this as well. Wow."

Oh, no. Absolutely none.
I play no instruments!

No?

I play the typewriter, and the rain stick, and the kazoo in my show! But as for other things, I know how music works. I know music theory very well. These days I'm probably a terrible reader, but I used to be a very good sight-reader. But I am not a very good reader anymore and I don't really play any instruments, at all. So I will cover up for a missing instrument. Like if there's something that's got this gigantic hole and I feel like it needs to be filled, sometimes I'll lay down a synth patch, or some keyboards, or some bass. I'm capable of playing some of these instruments, but that doesn't mean that I'm by any means qualified or should be allowed to. I did a lot of the percussion myself. That was all right.

Marian Call photo by Brian Adams. www.baphotos.com

People who look for you online are most likely going to see you posed with a typewriter—what's that all about?

Oh, absolutely. Well, I love the sound of it. I really love the sound and I wanted the sound on my very first album. I love how evocative it is. You instantly think of something and what you think of is literary and kind of nerdy, antique, old-fashioned, probably feminine historically and analog. I just love that suggestion that the typewriter brings to it and I wanted it in the music from the very beginning. I never thought of playing it live in my show until after I had done a lot of shows and people started asking, "Where's the typewriter?"

I said, "Oh, I guess. Why would I play a typewriter at my show? Who does that?" And of course, that was exactly why I should play a typewriter in my show!

So I started playing it. And actually, I bought one that I've become dearly attached to because she's been to forty-nine states with me now and up and down the coast a couple of times. All winter she sits in my car and she gets frozen and unfrozen. I have to remember to take her into the gigs long enough before the show that she'll unfreeze! I absolutely love that typewriter. . . . Nothing else sounds quite like it and I really, really enjoy just having it embedded in there.
If feels both symbolic and evocative. And I don't know, it just feels right. It feels like *me*.

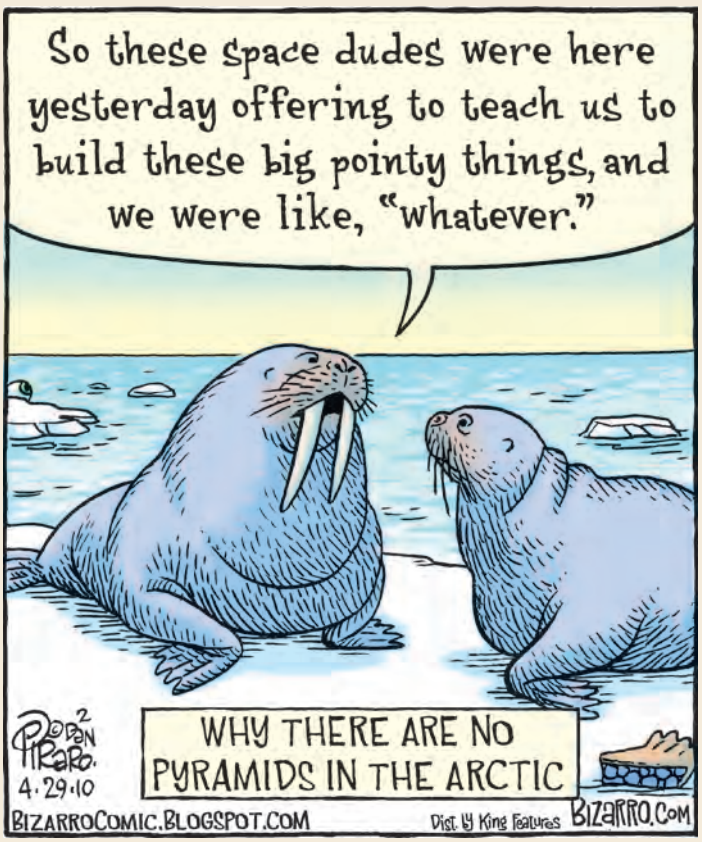
Marian Call is currently touring California and hopes to hit Europe next. Her website can be found at MarianCall.com. ■

Kylie Sturgess is the host of *Token Skeptic*, a podcast that garners around 15,000 listeners per month (and growing) and is syndicated to radio stations in the United States. She regularly writes for numerous publications worldwide and authors CSI's "Curiouser and Curiouser" online column. An award-winning philosophy and special needs teacher, Kylie is a member of the James Randi Educational Foundation Education Advisory Panel.

Skewed Skepticism: Bizarro Piraro

A Conversation with **Dan Piraro**

Award-winning cartoonist, fine artist, and stand-up comedian **Dan Piraro** is best known for his daily syndicated newspaper cartoon *Bizarro*. Appearing in over three hundred newspapers on six continents, *Bizarro* has won an unprecedented three consecutive "Best Cartoon Panel" awards from the National Cartoonists Society, and in 2011 Piraro won its highest honor, "Cartoonist of the Year." Over his twenty-seven-year career, Piraro has published sixteen books of his cartoons as well as three books of prose. Piraro has appeared on NPR, CNN, and HBO and is currently negotiating a half-hour, animated comedy show for television. *The Onion* referred to him as "one of the best cartoonists that has ever played the game." Piraro's cartoons have appeared on the Skeptical Inquirer's "Last Laugh" humor page for several years, and an issue about where skepticism meets art wouldn't be complete without him. Piraro was kind enough to answer a few questions from SI Deputy Editor **Benjamin Radford**.


So these space dudes were here yesterday offering to teach us to build these big pointy things, and we were like, "whatever."
WHY THERE ARE NO PYRAMIDS IN THE ARCTIC
DAN PIRARO 4.29.10
BIZARROCOMIC.BLOGSPOT.COM
Dist. by King Features
BIZARRO.COM

You sometimes have "mysterious" or "paranormal" subjects like Bigfoot, UFOs, Egypt's pyramids, and psychics as themes in your cartoons—often with a clever angle deflating the mystery or pretension. Are you a skeptic at heart, questioning everything?

Yes, always have been. I loathe superstition and am horrified by the amount of suffering and death that has been caused throughout history because of mythology. Though we like to think those days are gone, it still goes on daily. The fact that same-sex marriage is not uniformly legal throughout the world is a perfect example of superstition over reason.

As someone with a refined sense of the absurd, do you simply find the topics are just irresistibly ripe for lampooning?

That too. I know that belief in "the unseen" is an evolutionary quirk and not directly tied to intelligence, but I can't help but feel that the sorts of wacky stuff people believe in are just ridiculous. So I lampoon them. God included.

Hypocrisy is a common theme in your work, which uses humor to highlight the disparity between what people say and what they do (or between obvious reality and what people think). Why is that such a rich vein for you?

"I think there is no better way to get people to think about issues like critical thinking and reason than humor."

I'm not sure, really. I've always been an observer, both visually and behaviorally, so I see a lot of hypocrisy everywhere, of course. Combine that with my affinity for using logic and reason to make sense of things, [and] these kinds of things just pop out.

Another source of your humor has been puns—sometimes truly awful ones. Are there any especially atrocious puns that have earned you threats of bodily harm, or ones you regret and would like to publicly apologize for?

I've always been a fan of puns, but for years I tried not to use them in cartoons because I thought they were too easy. But over the years I've learned that readers really love puns, too. Even the groaners. So I started using the puns submitted to me by readers in a feature called "Sunday Punnies," and it's been extremely popular. My guideline regarding puns is this: if it makes me smile, I use it. I don't care if anyone thinks it is "bad"; I just do it. No threats yet, fingers crossed. . . .

Obviously the main goal of your work is entertaining people, but many of your cartoons indirectly encourage critical thinking by offering a skeptical perspective. What do you think about the role of art and satirical humor as vehicles for exposing truth and hypocrisy?

I think there is no better way to get people to think about issues like critical thinking and reason than humor. Traditionally, a good cartoon can have more political impact than a thirty-minute stump speech. I think that is often true in areas other than politics, too. There is no better way to disarm and diffuse than with humor. When you start making fun of a principle, person, or behavioral trait, it immediately makes it less powerful. I used to disarm bullies in this way in school. I was not big enough to beat them physically, but I realized if I could get other kids to laugh at them, they were no longer intimidated by them.

One of the many small hidden (and not-so-hidden) icons you sometimes use in your cartoons (along with a slice of pie and a lit firecracker) is a little alien in a UFO, a "Flying Saucer of Possibility." Also, according to something I either made up or read on the Internet, it represents a UFO you saw as a young child from the porch of your filthy mobile home at the bottom of a strip-mining pit in downtown Tokyo. True or false?

If philosophy teaches us anything (and it doesn't) it's that all things are both true and false. If I say I lived in a filthy mobile home at the bottom of a strip-mining pit in downtown Tokyo, I probably did. ■

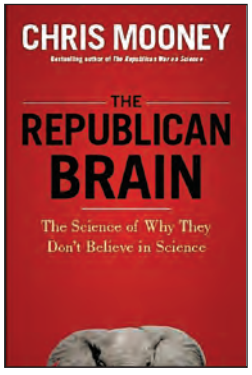
'Atsa biggest dang clown I ever seed.
K cafe 2
BIZARROCOMIC.BLOGSPOT.COM 1·22·10
Dist. by King Features
BIGFOOT VISITS TOWN UNDERCOVER

Benjamin Radford is deputy editor of the SKEPTICAL INQUIRER.

Are Conservatives and Liberals Different People?

RONALD A. LINDSAY

Chris Mooney's *The Republican Brain* is an important and provocative book. It advances a thesis that, if true, has significant implications for psychology, politics, and public policy. Essentially, Mooney claims that liberals and conservatives have contrasting psychologies that dramatically influence how they perceive the world. To quote Mooney, liberals and conservatives "are different *people*" (62).



The Republican Brain: The Science of Why They Deny Science—and Reality.

By Chris Mooney. John Wiley & Sons, Inc., Hoboken, New Jersey, 2012.
ISBN: 978-1-118-09451-8. 327 pp. Hardcover, $25.95.

Specifically, liberals tend to exhibit a trait many psychologists refer to as "Openness to Experience" significantly more often than conservatives. In turn, this trait allegedly explains why liberals are more likely to change their beliefs based on factual evidence. Conservatives, on the other hand, have a need for cognitive closure. Once their minds are made up, they may refuse to consider new evidence that undercuts their beliefs. This psychological tendency of conservatives means they are more likely to reject science or facts that contradict their prejudices. Hence the "Republican Brain"—a brain predisposed to believe more false things than is a liberal brain. (Mooney equates conservatives in the United States with Republicans—arguably an acceptable generalization in today's political climate.)

Mooney argues that the existence of these contrasting personality types explains various phenomena, such as liberals' willingness to rely on fact-rich arguments to refute conservatives—and the frustration liberals experience when conservatives cling to beliefs that have been indisputably refuted time and again, such as the belief in creationism or the belief that Obama is not a U.S. citizen. Mooney suggests that for many people producing hard evidence, such as Obama's birth certificate, in an effort to resolve a controversy is pointless. Indeed, for die-hard birthers this has proven to be the case. (As I write this review, Donald Trump has once again voiced doubts about Obama's citizenship.)

But is Mooney's explanation for the phenomenon of people denying reality and clinging to cherished beliefs the correct one? Anyone with sufficient life experience has encountered individuals who adamantly reject certain facts because they do not fit in with strongly held convictions. (Have you ever tried to reason with someone in love?) In other words, many people at one time or another allow emotions and commitments to guide their reasoning. They will rationalize away any facts inconsistent with their convictions, a phenomenon often referred to as "motivated reasoning." Someone skeptical of Mooney's thesis might argue that motivated reasoning is sufficient to explain the denial of hard facts and rejection of science that sometimes occurs, and, most importantly, that there is no compelling evidence that conservatives engage in motivated reasoning more often than liberals.

So what is the evidence that conservatives are more closed-minded and that this deep-seated personality trait results in a tendency to deny science and well-established facts?

The Evidence

In interviews and in blog posts since the publication of his book, Mooney has asserted that there is a "mountain" of evidence that supports his thesis. It is true that he has assembled an impressive body of scholarship, from well-respected psychologists and political scientists, such as John Jost, Robert Altemeyer, and Alan Gerber; moreover, Mooney, for the most part, accurately represents the results of these studies. However, are the studies themselves reliable?

Mooney's book is so thoroughly researched it would take a month to look at all the articles and books he cites, but a quick review of a couple of key studies indicates the studies may be flawed in certain important respects.

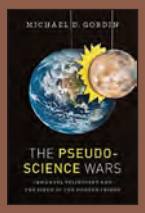
In using Jost's work to support his

thesis, Mooney relies principally on Jost's groundbreaking 2003 meta-analysis of studies on conservatism and its psychological correlates ("Political Conservatism as Motivated Social Cognition"). As a meta-analysis, Jost's analysis is a study of *other* studies that tried to determine if there was a correlation between "conservatism" and certain psychological traits. If the underlying studies were flawed, then the Jost meta-analysis will be flawed.

And some of the underlying studies were flawed. Obviously, if one is going to investigate links between conservatism and certain traits, one must first distinguish conservatives from liberals. It turns out that many of the studies Jost summarizes relied on something known as the Wilson-Patterson Scale. In 1968, Glenn Wilson and John Patterson developed a scale for measuring "conservatism" by using a list of characteristics that they claimed should be expected in the extreme conservative. These included "intolerance of minority groups," "insistence on strict rules and punishments," and "superstitious resistance to science." It doesn't take a PhD to recognize that if a conservative by definition is someone who is intolerant, insistent on punishment, and resistant to science, conservatism will correlate with authoritarianism and resistance to science.

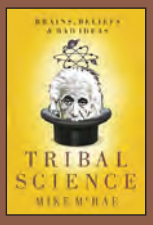
In response to some critics (including me), Mooney has pointed out that another study on which he relies—the 2010 study by Yale scholar Alan Gerber—used self-identification and responses to questions on social and economic issues as a means of differentiating between conservatives and liberals. Although not an infallible methodology, this is admittedly an improvement over the Wilson-Patterson Scale. Moreover, the Gerber study found there was a correlation between the trait of openness and liberal political positions and between the trait of conscientiousness and conservative political positions, for both social and economic issues—but only for *some* Americans. Interestingly, the Gerber study indicates that the relationship between personality traits and ideo-

[NEW AND NOTABLE *Listing does not preclude future review.*



THE PSEUDOSCIENCE WARS: Immanuel Velikovsky and the Birth of the Modern Fringe. Michael D. Gordon. A professor of history at Princeton University provides a penetrating and fascinating examination of what he calls the "pseudoscience wars"—a series of contentious debates from 1950 to the late 1970s about what counted as real science—with specific intense focus on one epic controversy and polarizing author, Immanuel Velikovsky, and his best-selling book *Worlds in Collision*. Gordon explores how the book gained such a prominent position in the public imagination, why Velikovsky was the target of so much ire from the scientific community, and what the story tells us about science in American culture at the height of the Cold War. University of Chicago Press, 2012, 312 pp., $29.

RORSCHACH AUDIO: Art & Illusion for Sound. Joe Banks. The most ambitious of a series of publications that began as an attempt to analyze claims made by self-styled electronic voice phenomena (EVP) researchers about the allegedly supernatural origin of certain voice recordings. The project's central metaphor draws an analogy between interpretation of ambiguous voice recordings and illusory interpretations of the famous Rorschach ink-blot tests. This book deals with psychoacoustics and technology; the social history of EVP; the relationships among illusions, mishearing, and creativity; and relationships between auditory and visual illusions. Strange Attractor Press, London, 2012, 191 pp., UK £10.



TRIBAL SCIENCE: Brains, Beliefs, and Bad Ideas. Mike McRae. An Australian science writer's book about ideas and how they develop collectively, and also about how science operates as a social phenomenon. Chapters deal with such questions as: Why do we see faces in clouds? Where did science come from? Why are we so unreasonable? What is this thing called "evidence"? Why do we hold onto bad ideas? And who is in control of what we know? Prometheus Books, Amherst, New York, 2012, 250 pp., $17.

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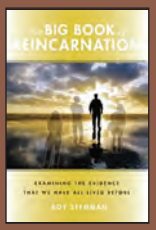


THE BIG BOOK OF REINCARNATION: Examining the Evidence That We Have All Lived Before. Roy Stemman. Touted as "thorough, well researched, and comprehensive," this is a credulous, uneven overview of reincarnation; tellingly, the author devotes an entire chapter to "Celebrity Believers" (appeal to misleading authority fallacy, anyone?), and two of the shortest chapters are "Alternative Explanations" and "Satisfying the Skeptics" (in which he writes, "I do not intend examining the skeptics' argument in any depth. . ."). Heirophant Publishing, 2012, 302 pp., $18.95.

THE PYRAMIDS AND THE PENTAGON: The Government's Top Secret Pursuit of Mystical Relics, Ancient Astronauts, and Lost Civilizations. Nick Redfern. Covering superficial discussions on a wide range of topics, from crop circles and the Face on Mars to Nazis and UFOs, Redfern—in true Fortean fashion—seems generally unconcerned with distinguishing plausible from implausible as long as it makes a good story. The book offers little in the way of original research, instead often relying on the tried-and-often-untrue method of rehashing others' work without a whit of skepticism. For example, Redfern asserts that the U.S. military is involved in a long-term, covert mission in Saudi Arabia to capture genies; his source, predictably, is another author who heard it from an anonymous official. Yep. New Page Books, 2012, 288 pp., $15.99.

—Kendrick Frazier and Benjamin Radford

logical preferences is markedly different for whites than it is for African Americans. For African Americans, the relationship between key traits and preferences is either statistically insignificant or much attenuated. According to Mooney, conservatives and liberals are "different people," but how can that claim be accepted if this sharp division is not valid across racial lines?

Color me a cynic, but sometimes politicians don't believe everything they say. They will spin, dissemble, or equivocate to score some rhetorical point.

Measuring Liberal vs. Conservative Errors

Liberals also reject science sometimes, as well as established facts. What's the response to this objection to Mooney's thesis? Mooney admits that this happens, but according to him, it happens less often.

How do we know? Can we know? This is a critical point, as Mooney recognizes, because his theory would be wholly speculative absent evidence that conservatives get it wrong significantly more often. The problem is: "There is no precise way to quantify how *wrong* the right is today. There's no standard measurement, no meter or angstrom or hectopascal for error or delusion" (172).

Mooney tries various measuring sticks, but at the end of the day, I do not believe they are very reliable. For example, he references two "fact-checking" services, Politifact and the "Fact-Checker" column in the *Washington Post*. Based on his review, Republican politicians were factually incorrect in their statements far more often than Democratic politicians.

One problem, as Mooney acknowledges, is that statements by Republican politicians were examined more often than statements by Democratic politicians in both surveys. Still, Mooney believes the gap between false statements by Republicans and Democrats was wide enough to be statistically significant.

But here is the key problem: these studies do not measure what Mooney needs to measure. They do not measure the inaccuracy of what conservatives or liberals believe—rather they measure the inaccuracy of what Republican or Democratic politicians say.

Color me a cynic, but sometimes politicians don't believe everything they say. They will spin, dissemble, or equivocate to score some rhetorical point. In fact, here's the irony: if politicians accept Mooney's thesis, they will dissemble even more. Mooney argues that facts don't persuade, so why should politicians be factual any more than is necessary to maintain credibility?

Exactly What Does Mooney's Theory Explain?

One mark of a sound scientific theory is that it explains phenomena better than rival theories. I'm not sure Mooney's theory does much work or helps us understand why people sometimes reject science or established facts, and why the denial of reality may happen so frequently among *today's* Republicans.

Mooney himself recognizes that Republicans have not always been so anti-science. Indeed, this is a relatively recent phenomenon. Eisenhower and other "moderate" Republicans of his time were very much pro-science.

The big change in the Republican Party came when it allied itself with the religious right—a marriage consummated by Reagan—in an effort to build a successful political coalition between fiscal conservatives and social conservatives. The party that had once been supportive of Planned Parenthood and had no particular grievance against evolution embraced various myths dear to dogmatic religionists. Since then, I think it's fair to say that more Republicans are anti-science than Democrats. (Admittedly, this is something of a hunch, as I don't have the hard numbers to support this.) But we don't need a psychological theory about personality types to explain this; we don't need to claim liberals and conservatives "are different *people*." We just need to understand politics. Henry IV, formerly a champion of the Protestant cause, famously remarked "Paris is worth a mass," by way of explaining his conversion to Catholicism that allowed him to assume the French throne in 1593. Likewise, I think many Republican politicians think the White House is worth throwing a bone to the anti-evolution crowd and anti-choice crowd—it doesn't make any personal difference to them.

Dogmatism blinds people to reality. Dogmatists will dismiss inconvenient facts that threaten their deeply held beliefs. This is true for fascists and communists; it's true for extreme liberals and extreme conservatives; and it is true for the devoutly religious—a group that unfortunately is currently holding the Republican Party in thrall. I am not sure an additional explanation is necessary. It's the Dogmatic Brain we need to worry about, not the liberal, conservative, Democratic, or Republican Brain.

Conclusion

The Republican Brain is a meaty and rewarding book. There is much more to it than I can summarize even in this lengthy review. The fact that I have not (yet) been persuaded to accept its central thesis does not imply it should not be taken seriously. To the contrary, I have spent some time questioning and probing some of its arguments precisely because it merits serious consideration. ■

Ronald A. Lindsay is the president and CEO of the Committee for Skeptical Inquiry.

The Puzzle of the Implausible

RONALD L. NUMBERS

Power and Illusion: Religion and Human Need. By David W. Wilbur. Lulu.com, Raleigh, North Carolina, 2010. ISBN: 0557669502. 216 pp. Softcover, $18.50.

Some of the most insightful skeptics have come from the ranks of religious fundamentalism. The late Martin Gardner, for example, spent his youth as a Seventh-day Adventist, expecting the imminent end of the world and embracing the flood geology of George McCready Price. Michael Shermer left born-again Christianity to become one of today's most influential skeptics. Both benefited immensely from their firsthand acquaintance with the mindset of devout believers.

The author of this privately published book, David W. Wilbur, spent his formative years and much of his adult life immersed in Seventh-day Adventism, a religion whose adherents worship on the Seventh-day Sabbath, follow the vision-based "testimonies" of Ellen G. White in theological and scientific matters, and advocate young-Earth creationism (which can be traced directly back to White's visions). After graduating from an Adventist college, Wilbur earned a doctorate in biophysics from the University of California, Berkeley, and later an MD from the Adventist Loma Linda University School of Medicine. He subsequently specialized in clinical oncology and spent his career on the Loma Linda faculty. In the Adventist scientific firmament, he was for decades one of the brightest stars. Now in his early seventies he lives by the maxim, "The best source of happiness is to make another being happy" (197).

While teaching at Loma Linda University, an ostensibly fundamentalist institution, Wilbur gradually lost his faith not only in Adventism but in all varieties of theism. He continued, however, to puzzle over the immense appeal of implausible religious claims. In this thoughtful—one might even say empathic—book, he describes his growing conviction that religion is all about power, illusion, and human need. Although he cites an impressive range of scholarship, his views do not reflect a particular authority—not even Sigmund Freud, who likewise came to view religion as an illusion. Wilbur's careful evaluation of religion in *Power and Illusion* should appeal especially to readers who themselves are already beginning to question the truth-claims of religion.

Wilbur's careful evaluation of religion in *Power and Illusion* should appeal especially to readers who themselves are already beginning to question the truth-claims of religion.

As a former believer, Wilbur fully appreciates the role of religion as a servant of human needs that "can be plausibly explained—both in its origins and its spread and wide acceptance—by its immense power in creating and organizing our civilizations" (9). Religion, in short, was "created by humans to serve human needs" (12). The primary justifications for religious belief, he argues, are allegedly supernatural historical documents (e.g., for many Christians and Muslims) and personal experiences (e.g., for Pentecostals). Many believers are drawn by assurances of life after death. Unfortunately, religions have proven to be especially prone to "corruption and abuse" (53).

Given his decades of practicing oncology in the only fundamentalist Christian medical school in the country, Wilbur is most authoritative in discussing the connection between religion and health, especially as revealed in the much celebrated (if methodologically flawed) studies of the relationship between intercessory prayer and healing (Chapter 9). Confounding such studies is the fact, as he reports, that "many infectious diseases that can be fatal are self-limiting in some patients, and recovery starts in days to weeks" (112). At times

his accounts become deeply personal, as when he relates his experiences with his own dying cancer patients. He notes that researchers going back to Francis Galton have failed to detect a positive effect of intercessory prayer on life expectancy or infant mortality. Wilbur's sound judgment is reflected in his use of James Randi's exposés of fraudulent healers and his recommendation of the Committee for Skeptical Inquiry and the SKEPTICAL INQUIRER as reliable sources for critiques of reported divine healings (113).

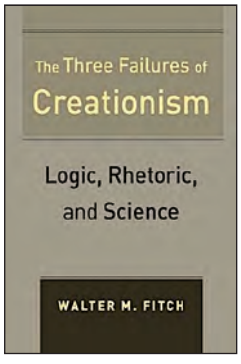
In contrast to the "illusions" of religion, science, writes Wilbur, "is the most successful endeavor our species has ever undertaken" (129). However, in trading religion for science, one must abandon certainty, "the one great enemy of the open and pluralistic society" that so many of us desire. "Probably the only safe certainty we can maintain," concludes Wilbur, "is a certainty that our best understandings are conditional and always seeking improvement" (192). In what I, a longtime student of the creation-evolution controversies, regard as an overly optimistic assessment, Wilbur claims that because of the stunning success of science, "in the long run, religion must live with science if it wants to thrive"; it will have to abandon such beliefs as an immaterial soul and a young Earth (180). I can only hope that he's correct. ■

Ronald L. Numbers is the Hilldale Professor of the History of Science and Medicine, University of Wisconsin–Madison, and author of *The Creationists*.

Enumerating the Problems with Young-Earth Creationism

PETER LAMAL

Walter Fitch's purpose in his new book, *The Three Failures of Creationism*, is to lay out the reasons evolutionists differ from Creationists and why the former are right and the latter are wrong. He is concerned with Creationists who interpret Genesis literally rather than metaphorically. The former are known as Young-Earth, or Strict, Creationists. Strict Creationists really believe that God created the universe and its organisms about 6,000 years ago over six twenty-four-hour days.



The Three Failures of Creationism: Logic, Rhetoric, and Science.
By Walter M. Fitch. University of California Press, Berkeley, 2012. ISBN: 987-0-520-27053-4. 194 pp. Softcover, $24.95.

The controversy between Strict Creationists and evolutionists is due at least in part to failures in logic by the Strict Creationists. Fitch defines and gives examples of failures in syllogisms, deduction versus induction, and analogical reasoning. He also lists and gives examples of eleven logical fallacies—including begging the question and the equivocation fallacy—and shows how the equivocation fallacy is the basis of the Strict Creationist belief that evolution is not a fact: Strict Creationists make the mistake of equating the everyday meaning of the word "theory"—that is, a guess—with the word's scientific meaning of a well-supported explanation, as in the theory of evolution.

Strict Creationists also make much use of rhetorical devices, including using specific phrases and repetition for their effect. If one knowingly uses logical fallacies as a means of persuasion, that is a rhetorical device. Examples of commonly used rhetorical devices are *ad hominem* attacks, use of loaded words, and repetition of falsehoods.

Fitch goes on to discuss categories of knowing and believing. He lists and describes seven ways of knowing and points out that they are not all equally dependable. They range from experience and observation to divine revelation and faith. In addition, he describes what he calls four areas of knowledge: theology, ethics, aesthetics, and logic/epistemology. These areas are said to be mutually exclusive. Thus science, which is confined to the logical/epistemological investigation of the material world, cannot answer questions of morality, beauty, or theology.

The goal of a chapter devoted to relevant math and statistics is to give the

reader an understanding of the general mathematical processes used to show whether a hypothesis is supported by the data. Hypotheses are not "proved," but the more tests any hypothesis passes the more confidence we can have in it; a fundamental tenet of science holds that a hypothesis or theory that cannot be empirically tested is unscientific. Thus the unbridgeable gap between science and Creationists—the assertion that God created the universe is not empirically testable.

Fitch further contrasts science to creationism by posing six relevant questions generated by observations of the fossil record, following this with ten requirements for a scientific explanation of those observations. One of the requirements is for a material mechanism that accounts for how mutations occur. Another is that the explanation must be in natural terms because supernatural mechanisms are not allowed in science.

Young-Earth (Strict) Creationists hold some beliefs that are not shared by many Creationists today. One is that the Bible cannot be wrong because it is the word of God and thus must be read literally. But there are obvious problems with taking Genesis literally. One is that the creation story in Genesis is actually two stories, each stemming from earlier sources that differ in many details and therefore cannot both be literally true.

Young-Earth Creationists also maintain that species are immutable; genetic mutation and speciation cannot be valid because according to Genesis, God created all living things in one week. Some believe that many small changes in a species cannot lead to evolutionary change. Other issues Young-Earth Creationists take with evolution include that there is too little time for it to occur because the Earth is only 6,000 years old, that the net effect of all mutations is harmful, and that there are gaps in the fossil record: many related fossils are without transitional forms.

Although Fitch is concerned with Strict Creationists, it seems odd that he explicitly gives other Creationists, Christians or not, a free pass. (It would be interesting to know what percentage of Christians are Strict Creationist and if that percentage has changed significantly in, say, the last fifty years.) I hope his book will inspire its readers to delve further into many of the topics it outlines.

William M. Fitch (1929–2011) was professor of ecology and evolutionary biology at the University of California, Irvine. He was a member of the National Academy of Sciences. ■

Peter Lamal is emeritus professor of psychology at the University of North Carolina–Charlotte. He is a fellow of the Division of Behavior Analysis of the American Psychological Association and a member of the Association for Behavior Analysis International.

[SCIENCE WATCH KENNETH W. KRAUSE continued from page 25

cadre of parents in South Philadelphia who recently blocked children from entering nearby convenience stores for snacks, Lustig et al. inquired, "Why couldn't a public-health directive do the same?"

In late May of this year, New York City Mayor Michael Bloomberg announced the first plan in U.S. history to outlaw the sale of large sugary drinks—anything over sixteen fluid ounces—in all restaurants, movie theaters, sports arenas, and even from street carts. If approved by the Bloomberg-appointed Board of Health, the ban could take effect next March.

Sugar can be bad; most of us get that. But even the most impassioned personal grudge against potentially harmful food is just that—personal. Science, like government, is valued beyond calculation insofar as it expands personal choice. But the appropriate boundaries of science are almost always exceeded when it attempts to join with government to first judge the masses incompetent and then restrict their personal choices.

I grow particularly nervous when even the most distinguished researchers transcend their callings to campaign for product taxes and bans or, most egregiously, to vaguely advocate for the regulation of "unhealthy aspects of diet and lifestyle." Science's time-tested authority springs vibrantly from its practitioners' exacting and impartial roles as explorers, skeptics, and even teachers. But never has it spawned from the deluded cravings of some to act as our parents or priests. ■

Notes

1. The authors dispute the common assertion that these diseases are caused by obesity. Rather, they argue, obesity is merely "a marker for metabolic dysfunction, which is even more prevalent." In support, they cite statistics showing that 20 percent of obese people have normal metabolism and that 40 percent of normal-weight people develop metabolic syndrome.

2. Neither "inalienable" nor "unalienable" rights are listed in the Constitution, of course. But three of the latter—life, liberty, and the pursuit of happiness—*are* enshrined in the Declaration of Independence. Katz and others might wish to reexamine their historical and philosophical significance.

References:

Agrawal, R., and Gomez-Pinilla, F. 2012. 'Metabolic syndrome' in the brain: Deficiency in omega-3 fatty acid exacerbates dysfunctions in insulin receptor signaling and cognition. *The Journal of Physiology* 590(10): 2485–99.

Ali, S.A. 2012. Sugar: Other 'toxic' factors play a part. *Nature* 482: 471.

Boswell, R. 2012. Sugar: There's more to the obesity crises. *Nature* 482: 470.

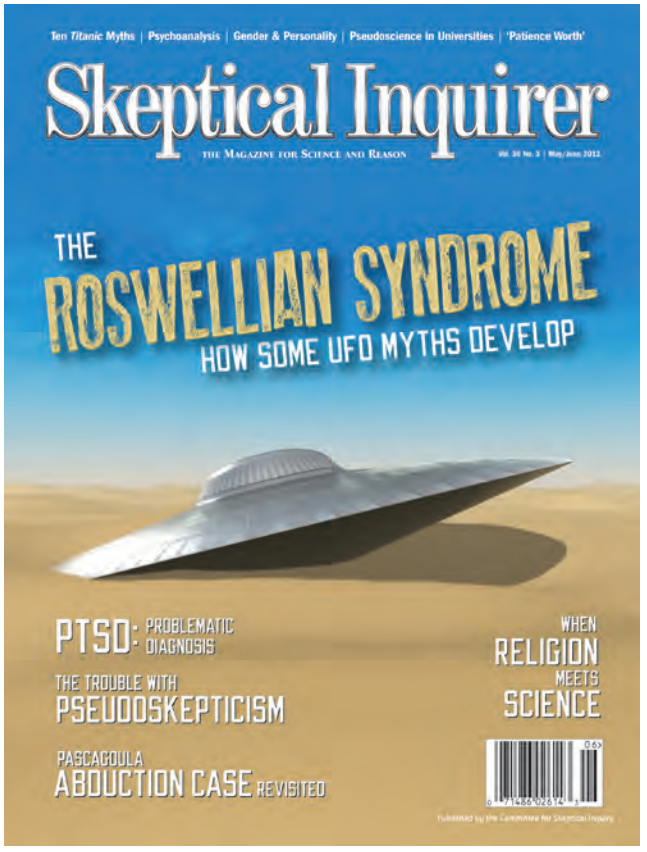
Cottrell, R.C. 2012. Sugar: An excess of anything can harm. *Nature* 483: 158.

Henry, C.J. 2012 Sugar: A problem of developed countries. *Nature* 482: 471.

Katz, D. 2011. Sugar *isn't* evil: A rebuttal. Online at www.huffingtonpost.com/david-katz-md/sugar-health-evil-toxic_b_850032.html.

———. 2012. Sugar on a slippery slope. Online at www.huffingtonpost.com/david-katz-md/sugar-regulation_b_1255695.html.

Lustig, R.H., L.A. Schmidt, and C.D. Brindis. 2012. Public health: The toxic truth about sugar. *Nature* 482: 27–29.



The Roswellian Syndrome

The cover on the May/June issue is the prettiest you've had in a long time and the most mysteriously intriguing. Thank you.

Alice Anderson
Las Cruces, New Mexico

PTSD: A Flawed Diagnosis

Peter Barglow's article ("We Can't Treat PTSD without a Better Diagnosis," SI, May/June 2012) is an excellent review of some controversies surrounding post traumatic stress disorder (PTSD), and it was good to see it published. However, it is incomplete and too proselytizing. There is no question that the entire DSM diagnostic scheme, as currently constituted, encourages over-diagnosis of many conditions and their severity. It also encourages the diagnosis of "co-morbid" conditions without any unifying understanding of individual persons. As a result, the author fails to address the simple reality that diagnosis itself is quite sloppy in practice. Many of the veterans whose PTSD is not stable over time more likely should have been diagnosed with adjustment disorders or clinical depression and would have been if the diagnosis were properly rigorous. The author also fails to discuss the very clear difference between brain injury and PTSD, which is usually quite clear even if the two conditions might coexist.

The author does highlight, but not sufficiently, a true problem in psychiatry, namely the lack of rigor in controlling for bias. Practitioners all too easily use terms and diagnoses in the most casual of ways. As a relevant example: how much "dissociation," a functional fracturing of the personality and grip on identity, is really delirium, a physical disruption of the brain's ability to function? In my own practice I evaluate many people for whom the question wasn't even considered in prior evaluations.

We all know that in good scientific inquiry the identification of a significant event does not tell us anything about the cause of that event. A differential diagnosis or Bayesian analysis is the proper next step. I hope to see more published on this topic. (I practice forensic psychiatry and have performed 400 evaluations of soldiers and veterans in the past twelve months.)

Wayne Blackmon, MD, JD
Professorial Lecturer
Law and Psychiatry
Scientific Evidence
George Washington University Law School
Washington, DC

The article by Dr. Barglow on PTSD was very interesting, as I have met too many phonies claiming that they have this "disorder." I suggest that he and your readers read the book *Stolen Valor* by B. Burkett and G. Whitley, Chapters 10, 11, and 12. The VA knows of booklets explaining how to fake PTSD symptoms and get away with it, leading to tax-free pensions and other benefits, and it does not care! It is so easy to be generous with other people's money, but the U.S. government is very good at doing that and has for far too long now.

I am a Vietnam vet but was not in the jungle with soldiers or marines so cannot comment on the hells they went through.

David Menard
Dayton, Ohio

Peter Barglow's article on PTSD cites Euripides's *Herakles* as an ancient description of PTSD. According to *Achilles in Vietnam* by Jonathan Shay, that wasn't the first; *The Iliad* sings of the PTSD of Achilles. (Put far too simplistically, his commander cheated him, his buddy was killed, and he went berserk.)

The book contends that PTSD is not a brain malfunction but a mind malfunction—the behavior of a healthy brain taught lessons of omnipresent danger and betrayal. This would make it very different from schizophrenia or depression, which seem to originate from malfunctions of brain systems.

Richard Stallman
Cambridge, Mass

Peter Barglow, MD, replies:

Wayne Blackmon's criticism of the current APA's classification system for psychiatric illness as over-inclusive and under-rigorous is fully justified. Proposed DSM-V criteria for mental illness may be better than DSM-IV but as of this date appear worse. Veteran David Menard is concerned that some soldiers may exploit the PTSD diagnosis by faking symptoms of this supposed disease. While some manipulation does lead to misuse of compensation money, I doubt that the practice is widespread. Such cheating should not divert attention from the permanent suffering and massive emotional disability caused by war. Financial compensation needs to be targeted to assist victims using a more precise diagnosis and broader social-cultural constructs.

I accept Stallman's assertion that PTSD phenomena indicate their dependence on a mind disturbance rather than a brain disease, and that the prolonged condition serves a survival function. Yes, I also think it appropriate to describe the Achilles of Homer's Iliad *as having "gone berserk" when he murdered Hector to avenge the death of his friend Patroklos. But the hero's amok behavior I consider unrelated to any contemporary conception of PTSD even though Jonathan Shay in 1994 speculated that this disorder (possibly with biologic abnormalities) might have followed as a later consequence of such a state of mind during the Vietnam war. A smart skeptic (Robert Spillane in 2006) put it this way: In Homer's characters "there are no hidden depths, no unconscious motives, no*

personality traits, no hierarchy of psychological needs." At that ancient time of history the mind was located anatomically not in the brain, but associated with human bowels and lungs. Later, during the fifth century BCE Greek theater, the berserk murders by the Herakles of Euripides and the Ajax of Sophocles were considered to be continuous with a self-reflecting consciousness typical of our modern era. I do agree with Stallman that all these mythic figures' symptoms and mental states seem quite different from those of an organic brain disease such as schizophrenia.

Science Meets Religion

Elie Shneour's article "The Ongoing Decline of Religion" (SI, May/June 2012) is a good scientific analysis. Yet, "be careful what you wish for." To the extent that the article's subheading is true ("The inexorably growing impact of science is our most significant tool discrediting religion"), our society has a problem. The scientific community has shown little interest in replacing religious atmosphere with culturally equivalent influences—influences that reinforce the social support encouraging interaction in church services, donations to the poor, the liturgy in deaths and funerals, the uplifting climate (singing and prayers) during religious ceremonies, and yes, even the questionable assumption of life after death, etc. These influences are more emotional than intellectual.

Recall Karl Marx's notion, "religion is the opium of the people." The context of his metaphor was the zeitgeist of the suffering of people during that era. The misery of lives in ancient societies gave "market value" to religiosity. Religion was consolation for the misery that eternal joy would overcome in the "next life." Now science is left with defending reason, logic, empiricism, and common sense against religious encroachment into government and educational affairs. Such encroachment violates the principle of the separation of church and state.

If science is successful in discrediting religious views among the masses, resulting in a more secular society, then what does Dr. Shneour offer as a replacement for the vacuum it has created—science?. . . Shneour notes that the "attempt to reconcile religion with science and/or technology [is] a virtually unattainable goal" (p. 52). But then why should such reconciliation be the goal? Why not assert clearly, "a separation between church and science"?

William F. Vitulli, PhD
Professor Emeritus of Psychology
University of South Alabama
Mobile, Alabama

Dr. Shneour's article on the decline of religion in the face of science was excellent, and I note this not simply because I agree with him. One sentence, however, caught my attention. He wrote, "Ethics is a major factor in science but plays no discernable role in technology." If he is referring to what might be the current state of affairs, then possibly a point can be made for this view. If instead he is referring to the synergy between science and technology, and how each is perceived operationally, which he did a great job elucidating, then I cannot agree. Another way to distinguish science from technology is that the former operates by discovery whereas the latter operates by invention. A discovery is not or should not be a matter of ethical concern in and of itself. An invention based on that discovery can carry a considerable ethical burden. Splitting the atom was science (of course done with technology). The ethical dilemma was how this discovery was used in weapons technology.

J. David Archibald
Biology Professor Emeritus
San Diego State University
San Diego, California

As a Member of the Humanist Society Scotland and therefore no friend of organized religion, I still winced at many of the inaccuracies in Shneour's article and the gratuitous nature of stated presuppositions.

The most obvious deficiency is the "either/or" presentation in the article, as if somehow a choice must be made between science and belief. Shneour analyzes history, focusing through a "scientific" lens and in so doing constructs a false dichotomy.

Shneour's central claim that religion has made no lasting impact in human ethics is incorrect, and it is wrong to imply that modern science can in some way perform such a role. To begin with, a distinction must be made between individual religious belief and the worst excesses of organized religion. Most religions incorporate some form of introspection, for example contemplation, meditation, divining, prayer; in my opinion, such behavior is positive—there is nothing wrong with becoming self-aware and learning to think in a positive and disciplined manner.

It is a myth to believe that science liberated humanity from religion and continues to do so. Newton and Copernicus were people of faith and continued to be throughout their lives despite their contribution to what we now regard as "science." Of course, Darwin became skeptical in later years, frowning upon such concepts as hell and damnation, but he still believed in a creator, perhaps one that created the evolutionary process.

In fairness, I add that the Natural Philosophy of the pre-Christian Greeks in fact included an ethical dimension. In those days, the pursuit of knowledge was seen as a means to an end, the objective being to become a better person in the pursuit of knowledge. Christianity changed all that by separating out the moral, ethical, and behavioral content.

I am a secularist. I believe that human society will benefit when there is a level playing field for those with and without faith, but each should have the right to believe (or not) as they see fit. Church and state should be truly separated, and religion should have no part to play in politics or education (other than where the study *of* religion as a subject is required).

Jack Gold
East of Scotland Education representative
Humanist Society Scotland

Shneour spends most of his time creating straw targets (the fallacy of many a religious skeptic). Does Shneour honestly suppose that any person whose theological education is more advanced than grade school would argue that a snake once spoke? As far as the Red Sea, in my teens I was taught—by my religion—that there likely was not a crossing of the Red Sea at all, dry or wet.

If Shneour, or the SKEPTICAL INQUIRER, wish to challenge religion, both will have to step up their game. Most of their arguments are already raised and encouraged by people of faith in far more sophisticated ways in classrooms and churches across the globe, so that people might advance beyond such childish beliefs as Santa Claus and speaking snakes.

Br. Duane D. Lemke, SCJ
Chicago, Illinois

Thank you for Elie Shneour's article. He writes that the statement "Life begins at conception" is false. This is, of course, true if it refers to life in general, but isn't that statement meant to refer specifically to human life? If so, perhaps the statement deserves some discussion. Can the argument not be made that the first uniquely and fully human origins are created at conception? Is the statement not a bit more than ". . . an utterly false assertion on its face. . ."? To decide at what point human life begins is not an easy question

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"Decisions, Decisions: The Problem with 'You Decide'"
Sharon Hill's "Sounds Sciencey" column examines the phenomenon of TV shows about unsolved mysteries ending with the proposition "you decide." What does "you decide" mean when the shows themselves are biased toward mystery mongering?

"Thunderbirds"
Skeptical Briefs "Native Skeptic" columnist Noah Nez examines various stories from different tribes of indigenous people about Thunderbird sightings. Some monster enthusiasts claim that these are reports of giant flying creatures in the modern era; are they?

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for most scientists, as demonstrated, for example, in the book *Science and Ethics* edited by Paul Kurtz.

Joseph DeRosa
Director of Music Ministries
Our Lady of the Snows Catholic Church
Reno, Nevada

Elie Shneour states that one of the dogmas derived from ancient religious texts is "the immaculate conception of Jesus by Mary." This is inaccurate. The Immaculate Conception is not the Virgin Birth. The Immaculate Conception is a doctrine proclaimed by Pope Pius IX in 1854. It claims that Mary was conceived by her mother without original sin. The Virgin Birth is quite a different matter. It is recorded in the gospels of Matthew and Luke, and asserts that Mary was a virgin when Jesus was born. Both doctrines are patently silly.

Philip Howard
Ocracoke, North Carolina

A number of readers wrote to make this same point about "immaculate conception."

—*EDITOR*

Elie A. Shneour incorrectly claims that Galileo "experimentally confirmed . . . the heliocentric theory." It was his lack of evidence (his attempt to connect tides to Earth's rotation was nonsense) and his polemic style that irritated the Vatican.

Using a myth about Galileo to argue that science beats religion is too much like comparing myths to argue that one religion is better than another. There is danger in using a myth as a casual shortcut past the real work of science. If science is perceived as just another religion, it can be excluded from schools, just like creationism.

John W. Dooley
Lancaster, Pennsylvania

Elie Shneour replies:

That my essay on religion received so many thoughtful responses is exhilarating yet humbling. That it also received objections that are beyond the realm of my expressed position has been enlightening but is difficult to respond to in short rebuttals. It is important to keep in mind that the main thrust of my essay is the undeniable fact that religion is slowly retreating while science is advancing. There is no vacuum created by this process because science is so much richer and growing relentlessly in scope. By contrast, religion is loaded down with legions of myths that impede its standing. The issue of making sciences compatible with religion, as several letters suggest, must be recognized as a lost cause. Ethics is a crucial civilizing issue that religion has virtually abandoned and science has taken up in many ways, among them the growing understanding of what is life and the humbling of our position in the universe. It is no longer an issue of heliocentrism but one in which the Earth is likely to be one of a myriad of livable planets in an extent of space with billions of galaxies, each containing billions of stars, many with planets. Science has a major ethical component that technology lacks, witness the barbed wire in the Civil War, the machine gun in the First World War, the Holocaust, and the atomic bomb in the Second.

On the issue of the Immaculate Conception vs. the Virgin Birth of Mary, they are both sides of the same coin and do not negate the observation that religion is declining. That the scientific community has little interest in stepping into the conflict between science and religion is clear evidence that this entire issue is no longer a significant impediment to progress. Finally, let me apologize for passing over the subjects of many wonderful letters from which I learned a great deal. I thank you all.

Pseudoscience in Universities

Dr. Novella has spotlighted a pervasive problem within our higher education institutions: quackery (complementary and alternative medicine [CAM]) seeking legitimacy by being introduced as serious subjects within our university system ("Pseudoscience in Our Universities," SI, May/June 2012).

These efforts seem to come in cycles, and now it's high-tide for many of them once again. The shamans, snake-oil salesmen, and other practitioners of the various pseudosciences approach our universities with pleas that these are just "courses of interest" that many students want. But once inside, they plant themselves, and like noxious weeds they spread out among the good flowers of education, poisoning the entire field. Once inside, the pseudoscientists will then try to claim legitimacy because they "teach" alongside real scientists in our universities.

These quacks are as dangerous to the academic body as a parasite is to a healthy human body. If our university system is to maintain its integrity, it must insist on the highest standards of proof for any subject before admission. CAM, along with astrology, creationism/intelligent design, and other unproven ideas, is best left to the local junior colleges where it can be offered as non-credit courses of interest, right alongside dancing and French cooking.

Gregory M. Mullaley,
Gainesville, Florida

While the various CAM modalities don't belong in a medical science program, they certainly do belong in any balanced curriculum aimed at training doctors to heal real people. As important as medical science is, it is only one dimension of healing. Medicine is also both an art and, unfortunately, a business.

Dr. Novella's gold-standard scientific research must, to be true to its mission, focus on determining the specific results of narrowly defined treatment strategies on specific medical conditions. That requires correcting sample groups to eliminate extraneous factors that might influence the result, including patient economics, lifestyle issues, and comorbidities. But real people bring all their emotional, lifestyle, and physical ailments to their encounters with medical practitioners, and the art of healing requires finding a way to treat pathological conditions within the context of these messy lives. Patients rarely care how scientific their treatment is if it results in tangibly improving their quality of life.

Science-based medicine, encouraged by the medical business, greatly overuses expensive technological and pharmaceutical treatment strategies. As a result, we spend $2.5 trillion on health care in the U.S. and get a mediocre result. CAM, with no science in its kit, focuses on human-to-human interaction, often resolving psychosomatic factors influencing health and improving the patient's quality of life at a relatively low cost. We need a medical profession that can bring these two approaches together. Including CAM in medical school curricula is one way to improve critical people skills of future doctors.

Robert D. Veitch
Minneapolis, Minnesota

Steven Novella, MD, replies:

Mr. Veitch falls for the typical false dichotomies with which proponents of pseudoscience in medicine deliberately muddy the waters. Yes, there is an art to medicine in addition to the science. There is a very human aspect to acquiring information from patients, developing a therapeutic relationship, and considering all the real-life factors that influence a patient's health and care. However, these are already part of regular mainstream medicine. These concepts were not invented by CAM proponents.

They are also completely irrelevant to the question of which treatments are safe and effective. Science-based medicine starts with treatments that have reliable evidence to back them up, and then applies them (and also studies them) in real-world practice with all the messy details of actual patients. CAM uses treatments that lack evidence of effectiveness, or in some cases have already been demonstrated not to work, and are often fanciful and extremely unlikely to be effective.

Mr. Veitch then assumed that CAM treatments are actually helping people when in fact that is the exact question that we need science to answer. Science is simply the process of looking fairly and systematically at all available information. To reject it or think we do not need it is to reject basic intellectual rigor and honesty.

Gender Personality Differences

Kenneth Krause has given us a second thought-provoking article regarding gender differences ("Gender Personality Differences: Planets or P.O. Boxes, Evidence or Ideology," SI, May/June 2012).

The passage I must question is the following: "[Del Giudice] denies as well Hyde's claim that his techniques were either controversial or prone to maximizing bias. To the contrary, he told me, his team simply 'thought hard about the various artifacts that can deflate sex differences in personality, and took steps to correct them'" (p. 27).

In other words, Del Giudice and his team took steps to inflate sex differences in personality (to paraphrase without the hidden double negative). Yet Del Giudice maintains his study shows the "true extent of sex differences in human personality . . . has been consistently underestimated" (p. 26). Well, this is hardly surprising in light of the team's gedanken experiments aimed at inflating such differences.

C.M. Wyss, PhD
Bloomington, Indiana

I am a feminist and an intellectual, and I do believe that there are biological differences in the minds of men and women. However, I can understand why some of my fellow academics in women's studies resist this notion, however unscientific I find their position. The inconvenient truth that men (for it is almost always men) like Kenneth W. Krause and Steven Pinker seem content to leave unaddressed is that, under patriarchal social systems—which still dominate the entire globe—different *is* unequal. Patriarchal rule is based on the assumption that the male is the standard and the female the exception; that qualities inherent to the male are more desirable than qualities inherent to the female. The pernicious effects of this indoctrination can be seen worldwide. As a stark example, many societies in the Middle East consider the court testimony of a woman to be worth half that of a man's; their confessed reasoning behind this being that women are more emotional, and this character flaw may compromise the objectivity of their testimony. This is accepted almost without question. It is not countered that men are discompassionate and ambitious, and that these characteristics might influence their testimony. . . . Of course not! There can't be anything wrong with the male! The male is the standard!

Here in the United States, things are not much better. Women are charged more for health insurance, because our bodies allegedly require more (or is it just "different"?) upkeep than men's bodies do. Women are essentially punished for being the ones who must endure pregnancy and childbirth, even though the babies we bear also belong to men, as our government refuses to enforce paid maternity leave like every other developed nation already does.

Women still make 77 cents to the man's dollar for the same work, and far less for work that seems to come "naturally" to us, such as childcare, eldercare, and social service work.

Krause invokes his previous column about women's underrepresentation in high-end science, technology, engineering, and math, but where is the study on men's underrepresentation in so-called "pink collar" jobs? There is none, because these jobs are devalued in our patriarchal society, precisely because they have historically been considered "women's work."

Women do not want to be men; we want our femininity to be revered and rewarded by our culture the way men's masculinity is. Until that happens, as long as we are held to a masculine "standard," women—tired of being marginalized as the exception to the rule and told that our interests and passions are less worthy—will understandably bristle at the suggestion that there are inherent differences between our brains and those of the culturally dominating sex.

Jen Nichols
Portland, Oregon

Kenneth W. Krause replies:

First, my contemporaries and I certainly didn't undervalue "pink collar" jobs when I was a young man. A safe clerical position would have been much preferred, for example, to back-breaking construction and furniture moving. As I recall, clerical jobs often paid more but were completely unavailable to men, many of whom I saw seriously injured or just plain used up by the time they turned thirty. Second, we should be grateful that neither men nor women have to endure the hardships of pregnancy and childbirth. Today, reproduction is a choice. Third, there's no such thing as the "same work." As the cited research suggests, factors other than discrimination are likely at play. Finally, it's really not a simple, dualistic question of masculinity and femininity. In the end, we respect what works, and efficacy always implicates a much more complex, multifactorial analysis.

Pseudoskepticism

I think Lawrence Torcello ("The Trouble with Pseudoskepticism," SI, May/June 2012) misses an important point when he calls vaccine refusers and global warming doubters "those outside the realm of active research into a particular topic [who] willfully and without justification contradict established scientific consensus. . . ." In both cases, laymen are being asked to take potentially harmful action, accepting the experts' word that it is the right thing to do. Looking back on lead paint, asbestos insulation, mercury fillings, and endocrine disruptors in plastics, for instance, as well as the current epidemic of Ritalin prescriptions with uncertain long-term effects, parents can certainly be forgiven for skepticism regarding substances to be injected into their children. Vaccines do have real risks and side effects aside from the rumored ones. The answer is not to insist that parents shut up and accept the scientific consensus but to continue to offer abundant education about the even greater risks of non-vaccination.

In the case of global warming, I think people can likewise be forgiven for hesitating to make sweeping changes to the economy based on what might turn out to be the latest exaggerated scare (Population Bomb, Y2K, etc.). Here, skepticism is a rational response in the face of drastic claims, and before people accept a lifestyle with radically reduced comforts, they will need to be painstakingly convinced, not simply admonished to trust the experts.

Patricia Linderman
Falls Church, Virginia

Mr. Torcello's point is that anybody who doubts so-called anthropogenic global warming (AGW) is a pseudoskeptic. He says there is an overwhelming scientific consensus about AGW, but he himself is not a climate scientist. How can he be so sure? I am an electrical engineer and have had some training in physics, chemistry, and math. I think there is a scientific consensus that global climate is changing, naturally or not. The amount of carbon dioxide in the atmosphere has been rising in the last decades. The question is: How much of global warming is caused by human-produced carbon dioxide? For sure, there is not a scientific consensus about this issue, so I feel free to be skeptical (or pseudoskeptical, if you wish).

Claude Pasteur Faria
Florianópolis, SC
Brazil

There is no more fertile ground for pseudoskepticism than postmodernist philosophy. They will use the findings of science when it suits their needs, such as quantum physics showing that our senses limit our perception of reality. This leads to the claim that there is no "absolute truth" so one person's personal truth is no more valid than another's. Also, feelings play a part in social constructs and that's all science is, a social construct, so there's no such thing as science as a value-free activity.

The most annoying thing about postmodernists is their dishonesty. They know they're spouting nonsense but they're doing it in such a clever, erudite manner. If they tried to live the nonsense they talk, they would starve and freeze.

Hal C. Pattee
Utica, New York

Lawrence Torcello replies:

My position is as follows: Those who deny the established scientific consensus with regard to medical vaccines, anthropogenic climate change, and AIDS (as well as those who practice other forms of science denialism) don't merit the title of skeptics but can be more accurately described as pseudoskeptics. The pseudoskeptical position has more to do with cynicism than skepticism. I do not claim that scientific consensus is infallible. Nor do I claim that being unconvinced of a scientific finding is necessarily pseudoskeptical, as long as one honestly acknowledges what the scientific consensus is, along with one's own relative ability to judge it. It remains the case that if an entire community of active scientific researchers in a given area share in a miscalculation, then it is extremely unlikely that a layperson could reliably identify and assess the mistake. Happily, the skeptical process inherent to science drives it toward self-correction. When scientific opinion stands in error, it is ultimately the process of science that detects and corrects the inaccuracy. Conversely, there is a long history of corporate and political attempts to subvert science and to suppress financially inconvenient findings. All the more reason to stick with scientific consensus, then, since the whole scientific community cannot be influenced by corporate and political ideologies, even if some individual scientists can be. The alleged counter-examples in Patricia Linderman's letter nicely underscore my point. Claude Pasteur Faria correctly identifies himself, in his letter, as a pseudoskeptic. Climate scientists, as a matter of consensus, have confidently ruled out the existence of natural forces capable of explaining the degree to which temperatures have risen over the past century. It is a brute finding of science that human beings are heating the planet and changing the climate. I tend to agree with Hal C. Pattee's letter. Postmodernism, in many of its forms, is an incoherent conceit. It assumes that the Enlightenment projects it rejects have actually occurred in most of the world. As such, it often celebrates its own perceived radicalism

while exacerbating the yoke of premodern superstitions. Most of the world's inhabitants live in relative poverty, are least responsible for anthropogenic climate change, and are least equipped to adapt to its effects (which many are already experiencing).

Pascagoula Case

Joe Nickell's fine special report on the Pascagoula UFO case ("Famous Alien Abduction in Pascagoula: Reinvestigating a Cold Case," SI, May/June 2012) really brought back memories, and clarified some points for me. My neighbor at the time was the Michigan director for MUFON, who invited Hickson and Parker to speak to the group. He brought me along to get a perspective from a skeptic with an engineering background.

We had dinner with the pair before the talk, and Parker said almost nothing the whole time. I asked a few simple questions when Hickson was away from the table, but Parker demurred and said I should talk to Hickson. I got the impression that he was completely cowed by Hickson. This is now much more understandable with Nickell's description of Parker's situation (new hire living with the Hicksons).

The talk itself was given entirely by Hickson. One point that particularly struck me was when an audience member asked the purpose of the alien equipment used in the "medical exam." Hickson answered "How would I know?" I was a bit surprised, thinking that if the story were pure hoax he might have concocted some rationale for each story element. His answer was more like that expected from someone who had a genuine mystifying experience. At the time I had never heard of hypnogogic states, but now that explanation seems like a perfect fit.

Thank you, Joe Nickell!

Bob Masta
Ann Arbor, Michigan

Anthropomorphic Musings

Mark Alford's interesting review of *War of the Worldviews* by Deepak Chopra and Leonard Mlodinow ("Is Science the Antidote to Deepak Chopra's Spirituality?," SI, May/June 2012) includes the notions of "universal consciousness," "purpose in the universe," and "the meaning of life." These are mere anthropomorphisms, not worthy of deliberation by scientists or philosophers.

Ascribing human qualities and concepts to the entire universe is the height of hubris. Need I repeat the cliché about our gross insignificance as a Johnny-come-lately species on one planet in one solar system in the suburbs of one galaxy among billions? Consciousness, purpose, and meaning are purely human concepts, and any attempt by either spiritualists or scientists to find them as driving forces in the universe is an exercise in futility.

What are the purpose and meaning of an atom? And who or what is the supposed director who manages the universe by its own consciousness? If you want to say it's God, well, say so. But discussions of panpsychism—the supposition that some cosmic mind makes the universe go 'round—by otherwise rational scientists and philosophers is unworthy of them.

The universe never has and never will reveal its purpose or meaning, because it has none.

Robert L. Wolke
Professor emeritus of chemistry
University of Pittsburgh
Author of *What Einstein Kept Under His Hat* and others

In his review of a book by Deepak Chopra and Leonard Mlodinow, Mark Alford insists that the rejection of unevidenced supernatural claims goes beyond science into philosophical materialism. He says of arguments against supernatural entities like the soul, "rather than being scientific they will be of a more general logical or philosophical nature." Alford ends his review with a flourish: "The counterpoint to Chopra's speculations is not science, with its complicated structure of facts, theories, and hypotheses, but something much more basic. The antidote to Chopra is Occam."

Recently I attended a talk by Eugenie C. Scott, executive director of the National Center for Science Education (NCSE). NCSE is a prominent supporter of evolution and opponent of creationism. The first half of Scott's talk was an explanation and a defense of science. The second half made the same point as Alford; that science is not incompatible with the supernatural claims of religion. There is one clear difference: in the first half of her talk, Scott presented parsimony, a.k.a. Occam's razor, as an accepted part of the scientific method.

I agree with Alford that supernatural claims such as those of Chopra can be readily dismissed with an application of Occam's razor. And I agree with Scott that Occam's razor is an accepted part of science. This makes it impossible for me to agree with both of them that supernatural religious claims are compatible with science. Perhaps Alford can explain why he does not consider Occam's razor to be a part of science.

David J. Schuller
Ithaca, New York

Mark Alford responds:

The main point of my review was that to refute Chopra you only need the basic principle of Occam's razor. This principle is part of the foundation of science, but it is much broader; one might even regard it as part of common sense (if my car is missing then I assume it has been towed or stolen, not converted into smoke: isn't that just Occam's razor?). Schuller's main point is just a misunderstanding: he thinks I am saying Occam's razor is not part of science. But actually I am saying it is not exclusive to science. It's a more general principle.

[FEEDBACK

The letters column is a forum on matters raised in previous issues. **Letters should be no longer than 225 words.** Due to the volume of letters we receive, not all can be published. Send letters as email text (not attachments) to letters@csicop.org. In the subject line, provide your surname and informative identification, e.g.: "Smith Letter on Jones evolution article." Include your name and address at the end of the letter. You may also mail your letter to the editor to 944 Deer Dr. NE, Albuquerque, NM 87122, or fax it to 505-828-2080.

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[THE LAST LAUGH BENJAMIN RADFORD

HIDDEN MESSAGES by Dave Thomas

The following letters are a simple substitution cipher. If R stands for L, it will do so everywhere. Solution is by trial and error. Hint: Look for patterns in words; for example, the scrambled phrase "JRXJ JRQ" might represent "THAT THE."

PUZZLE

"F BX ABCFIGC OFCD VCSAFHFCZ,

PSC GYC OFCD CDYVI ODY BJI

AJYSH YE FC."

—IHFCD VFCOITT

CLUE: Z = Y

PREVIOUS PUZZLE SOLUTION (July/August 2012): "RELIGIONS ARE CONCLUSIONS FOR WHICH THE FACTS OF NATURE SUPPLY NO MAJOR PREMISES."
— AMBROSE BIERCE

SUPER-SECRET WORD: UNWORSHIPABLE
(Instructions: www.nmsr.org/secretword.htm)

Hidden Messages Puzzle Contest

Submit your solution by email to bradford@centerforinquiry.net or via postal mail to: Benjamin Radford The Last Laugh P.O. Box 3016 Corrales, NM 87048
Winner will be chosen at random from the first three correct submissions received by both email and postal mail.

July/August 2012 Hidden Messages Puzzle Contest Winner: **Robert Boles**
This issue's prize: a Surly-Ramics necklace, courtesy of surlyramics.com

SKEPTICAL ANNIVERSARIES

by Tim Farley

September 1, 1972: Frank Searle's photo of the supposedly two-humped Loch Ness monster was published in London's *Daily Mail*.

September 9, 2002: An altercation outside a Hollywood hotel ended when astronaut Buzz Aldrin punched moon landing denier Bart Sibrel. Police declined to charge anyone in the incident, the video of which circulated widely.

September 12, 1957: James Vicary claimed in a press conference that he had increased the sales of Coca-Cola and popcorn in a Fort Lee, New Jersey, movie theater via subliminal advertising. Five years later (to the day) he admitted in an interview with *Advertising Age* that the test was highly flawed.

September 25, 1987: A Federal court found the American Medical Association had illegally attempted to "contain and eliminate the chiropractic profession" in the antitrust case *Wilk v. AMA*. The ruling was upheld through several appeals.

October 9, 1992: A meteor with a pronounced green color was sighted throughout the northeastern United States, prompting many UFO reports. A meteorite hit a parked car in Peekskill, New York, and was recovered.

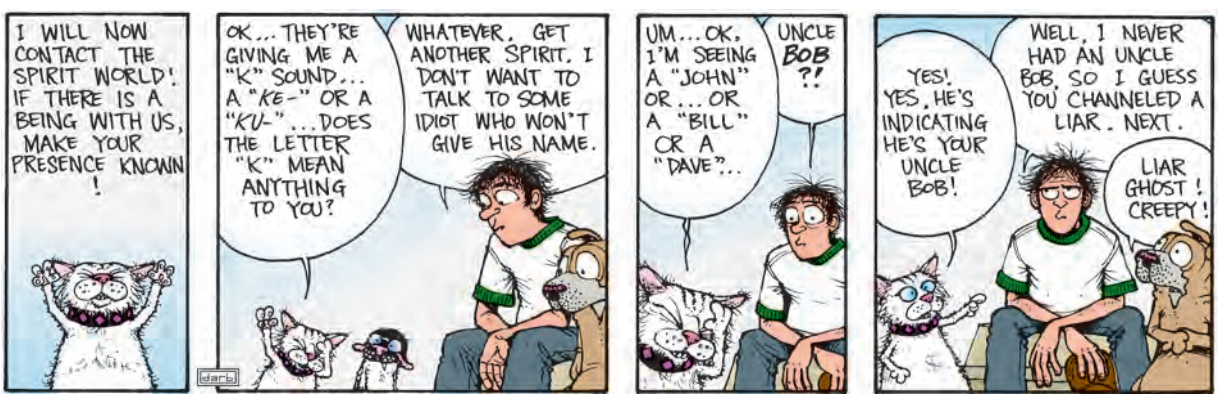
October 20, 1967: The often-seen "Patterson-Gimlin" footage of an alleged sasquatch was shot in a national forest area in California.

October 23, 1892: The popular "duck-rabbit" optical illusion, later popularized by psychologist Joseph Jastrow, was first published in *Fliegende Blätter*, a German humor magazine.

October 26, 1997: The last natural case of smallpox was diagnosed in Somalia. Eradication of this disease via vaccination is one of the greatest successes of science-based medicine.

Tim Farley is a research fellow with the James Randi Educational Foundation and created the website whatstheharm.net.

GET FUZZY BY DARBY CONLEY


I WILL NOW CONTACT THE SPIRIT WORLD! IF THERE IS A BEING WITH US, MAKE YOUR PRESENCE KNOWN!
OK... THEY'RE GIVING ME A "K" SOUND... A "KE-" OR A "KU-"... DOES THE LETTER "K" MEAN ANYTHING TO YOU?
WHATEVER. GET ANOTHER SPIRIT. I DON'T WANT TO TALK TO SOME IDIOT WHO WON'T GIVE HIS NAME.
UM... OK, I'M SEEING A "JOHN" OR... OR A "BILL" OR A "DAVE"...
UNCLE BOB?!
YES! YES. HE'S INDICATING HE'S YOUR UNCLE BOB!
WELL, I NEVER HAD AN UNCLE BOB, SO I GUESS YOU CHANNELED A LIAR. NEXT.
LIAR GHOST! CREEPY!

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Alabama Skeptics, Alabama. Emory Kimbrough. Tel.: 205-759-2624. 3550 Watermelon Road, Apt. 28A, Northport, AL 35476

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Tucson Skeptics Inc. Tucson, AZ. James McGaha. Email:mcgaha@skepticus.com. 5100 N. Sabino Foothills Dr., Tucson, AZ 85715

Phoenix Area Skeptics Society (PASS) http://phoenixskeptics.org
Email: phoenixskeptics@gmail.com

Phoenix Skeptics, Phoenix, AZ. Michael Stackpole, P.O. Box 60333, Phoenix, AZ 85082

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Bay Area Skeptics (BAS) San Francisco–Bay Area. Eugenie C. Scott, President. 1218 Miluia St., Berkeley, CA 94709. Email: scott@ncse.com. www.BASkeptics.org

Independent Investigations Group (IIG), Center for Inquiry–*West*, 4773 Hollywood Blvd, Los Angeles, CA 90027. Tel.: 323-666-9797. www.iigwest.com

Sacramento Skeptics Society, Sacramento. Terry Sandbek, President. 4300 Auburn Blvd. Suite 206, Sacramento CA 95841. Tel.: 916 489-1774. Email: terry@sandbek.com

San Diego Association for Rational Inquiry (SDARI) President: Paul Wenger. Tel.: 858-292-5635. Program/general information 619-421-5844. www.sdari.org. Postal address: PO Box 623, La Jolla, CA 92038-0623

CONNECTICUT

New England Skeptical Society (NESS) New England. Steven Novella M.D., President. Tel.: 203-281-6277; Email: board@theness.com. 64 Cobblestone Dr., Hamden, CT 06518 www.theness.com

D.C./MARYLAND

National Capital Area Skeptics NCAS, Maryland, D.C., Virginia. D.W. "Chip" Denman. Tel.: 301-587-3827. Email: ncas@ncas.org. PO Box 8428, Silver Spring, MD 20907-8428 http://www.ncas.org

FLORIDA

Tampa Bay Skeptics (TBS) Tampa Bay, Florida. Gary Posner, Executive Director. Tel.: 813-505-7013; Email: tbs@centerforinquiry.net. c/o O'Keefe, 4011 S. Manhattan Ave. #139, Tampa, FL 33611-1277. www.tampabayskeptics.org

The James Randi Educational Foundation. James Randi, Director. Tel: (954)467-1112; Email jref@randi.org. 201 S.E. 12th St. (E. Davie Blvd.), Fort Lauderdale, FL 33316-1815. www.randi.org

ILLINOIS

Rational Examination Association of Lincoln Land (REALL) Illinois. Bob Ladendorf, Chairman. Tel.: 217-546-3475; Email: chairman@reall.org. PO Box 20302, Springfield, IL 62708 www.reall.org

Chicago Skeptics Jennifer Newport, contact person. Email: chicagoskeptics@gmail.com. www.chicagoskeptics.com

LOUISIANA

Baton Rouge Proponents of Rational Inquiry and Scientific Methods (BR-PRISM) Louisiana. Marge Schroth. Tel.: 225-766-4747. 425 Carriage Way, Baton Rouge, LA 70808

MICHIGAN

Great Lakes Skeptics (GLS) SE Michigan. Lorna J. Simmons, Contact person. Tel.: 734-525-5731; Email: Skeptic31@aol.com. 31710 Cowan Road, Apt. 103, Westland, MI 48185-2366

Tri-Cities Skeptics, Michigan. Gary Barker. Tel.: 517-799-4502; Email: barkerg@svol.org. 3596 Butternut St., Saginaw, MI 48604

MINNESOTA

St. Kloud Extraordinary Claim Psychic Teaching Investigating Community (SKEPTIC) St. Cloud, Minnesota. Jerry Mertens. Tel.: 320-255-2138; Email: gmertens@stcloudstate.edu. Jerry Mertens, Psychology Department, 720 4th Ave. S, St. Cloud State Univ., St. Cloud, MN 56301

MISSOURI

Skeptical Society of St. Louis (SSSL) St. Louis, Missouri. Michael Blanford, President. Email: info@skepticalstl.org. 2729 Ann Ave., St. Louis, MO 63104 www.skepticalstl.org

St. Joseph Skeptics
P.O. Box 8908
St. Joseph MO, 64508-8908

NEVADA

Reno Skeptical Society, Inc., Brad Lutts, President. Tel.: (775) 335-5505; Email: info@RenoSkeptics.org. 18124 Wedge Parkway #1052 Reno, Nevada 89511. www.RenoSkeptics.org

NEW MEXICO

New Mexicans for Science and Reason (NMSR) New Mexico. David E. Thomas, President. Tel.: 505-869-9250; Email: nmsrdave@swcp.com. PO Box 1017, Peralta, NM 87042. www.nmsr.org

NEW YORK

New York City Skeptics Michael Feldman, president. PO Box 5122 New York, NY 10185. www.nycskeptics.org

Central New York Skeptics (CNY Skeptics) Syracuse. Lisa Goodlin, President. Tel: (315) 636-6533; Email: info@cnyskeptics.org, cnyskeptics.org PO Box 417, Fayettville, NY 13066

OHIO

Central Ohioans for Rational Inquiry (CORI) Central Ohio. Charlie Hazlett, President. Tel.: 614-878-2742; Email: charlie@hazlett.net. PO Box 282069, Columbus, OH 43228

Cleveland Skeptics Joshua Hunt, Co-Organizer, www.clevelandskeptics.org

South Shore Skeptics (SSS) Cleveland and counties. Jim Kutz. Tel.: 440 942-5543; Email: jimkutz@earthlink.net. PO Box 5083, Cleveland, OH 44101 www.southshoreskeptics.org

Association for Rational Thought (ART) Cincinnati. Roy Auerbach, president. Tel: (513)-731-2774, Email: raa@cinci.rr.com. PO Box 12896, Cincinnati, OH 45212. www.cincinnatiskeptics.org

OREGON

Oregonians for Science and Reason (OASR) Oregon. Jeanine DeNoma, president. Tel.: (541) 745-5026; Email: wilkinsa@peak.org; 39105 Military Rd., Monmouth, OR 97361. www.OASR.org

PENNSYLVANIA

Philadelphia Association for Critical Thinking (PhACT), much of Pennsylvania. Eric Krieg, President. Tel.: 215-885-2089; Email: erickrieg@verizon.net. By mail c/o Ray Haupt, 639 W. Ellet St., Philadelphia PA 19119

TENNESSEE

Rationalists of East Tennessee, East Tennessee. Carl Ledenbecker. Tel.: (865)-982-8687; Email: Aletall@aol.com. 2123 Stonybrook Rd., Louisville, TN 37777

TEXAS

North Texas Skeptics NTS Dallas/Ft Worth area, John Blanton, Secretary. Tel.: (972)-306-3187; Email: skeptic@ntskeptics.org. PO Box 111794, Carrollton, TX 75011-1794. www.ntskeptics.org

VIRGINIA

Science & Reason, Hampton Rds., Virginia. Lawrence Weinstein, Old Dominion Univ.-Physics Dept., Norfolk, VA 23529

WASHINGTON

Seattle Skeptics
www.seattleskeptics.com

The organizations listed above have aims similar to those of the Committee for Skeptical Inquiry but are independent and autonomous. Representatives of these organizations cannot speak on behalf of CSI. Please send updates to Barry Karr, P.O. Box 703, Amherst NY 14226-0703.
International affiliated organizations listed at www.csicop.org.

CENTERS FOR INQUIRY

www.centerforinquiry.net/about/branches

Transnational
3965 Rensch Road, Amherst, NY 14228
Tel.: (716) 636-4869

Austin
PO Box 202164, Austin, TX 78720-2164
Tel.: (512) 919-4115

Chicago
PO Box 7951, Chicago, IL 60680-7951
Tel.: (312) 226-0420

Indianapolis
350 Canal Walk, Suite A, Indianapolis, IN 46202
Tel.: (317) 423-0710

Los Angeles
4773 Hollywood Blvd., Hollywood, CA 90027
Tel.: (323) 666-9797

Michigan
3777 44th Street SE, Grand Rapids, MI 49512
Tel.: (616) 698-2342

New York City
PO Box 26241, Brooklyn, NY 11202
Tel.: (347) 699-0234

San Francisco
email: sf@centerforinquiry.net

Tampa Bay
4011 S. Manhattan Ave. #139, Tampa, FL 33611-1277
Tel.: (813) 505-7013

Washington, DC
921 Pennsylvania Ave. SE, Washington, DC 20003
Tel.: (202) 543-0960

Argentina
Buenos Aires, Argentina
Tel.: +54-11-4704-9437
www.cfiargentina.org

Canada
2 College Street, Suite 214 Toronto, Ontario,
M5G 1K3, Canada

China
China Research Institute for Science Popularization,
NO. 86, Xueyuan Nanlu Haidian Dist., Beijing,
100081 China
Tel.: +86-10-62170515

Egypt
44 Gol Gamal St., Agouza, Giza, Egypt

France
Dr. Henri Broch, Universite of Nice, Faculte des
Sciences, Parc Valrose, 06108, Nice cedex 2,
France Tel.: +33-492-07-63-12

Germany
Kirchgasse 4, 64380 Rossdorf, Germany
Tel.: +49-6154-695023

India
46 Masi garh, New Friends Colony
New Delhi 110025
Tel.: 91-9868010950

London
Conway Hall, 25 Red Lion Square,
London WC1R 4RL, England

Nepal
Humanist Association of Nepal,
PO Box 5284, Kathmandu Nepal
Tel.: +977-1-4413-345

New Zealand
email: bcooke@centerforinquiry.net

Nigeria
PO Box 25269, Mapo, Ibadan, Oyo State, Nigeria
Tel.: +234-2-2313699

Peru
D. Casanova 430, Lima 14, Peru
email: cipsiperu@yahoo.com

Poland
Lokal Biurowy No. 8, 8 Sapiezynska Sr.,
00-215, Warsaw, Poland

Romania
Fundatia Centrul pentru Constiinta Critica
Tel.: (40)-(0)744-67-67-94
email: CenterforInquiry.Romania@gmail.com

Russia
Dr. Valerii A. Kuvakin, 119899 Russia, Moscow,
Vorobevy Gory, Moscow State Univ.,
Philosophy Department

Senegal
PO Box 15376, Dakar – Fann, Senegal
Tel.: +221-501-13-00